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Maximize your return on IT ■ www.networkworld.com December 22, 2008 ■ Volume 25, Number 49

Microsoft's mobile challenge
Creating a version of the IE Mobile browser you can love. **Page 10.**

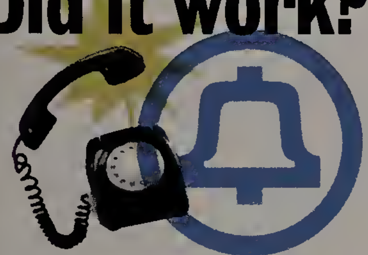
At odds over virtualization security
IT operations and security pros seeing things differently. **Page 11.**

BMC to play key role in Cisco blade server
Software in "California" — a major Cisco foray into the data center — will reprovision network resources when virtual machine workloads are moved around. **Page 12.**

The year in Ethernet switching
2008 was a busy year: Juniper Networks entered the market, Cisco unveiled its next-generation platform, and other major vendors consolidated. We look back at the headlines and look ahead to 2009. **Page 17.**

NEWSPAPER ■ $5.00

25 years after AT&T breakup: Did it work?



BY BRAD REED

When AT&T grudgingly agreed to break itself up 25 years ago, it was seen as a momentous event in the history of telecommunications. Today, however, some experts question not only whether the divestiture was necessary, but also whether it has had any long-term impact on the market.

The U.S. government-mandated breakup forced AT&T to spin off its local exchange carriers, and in return it was allowed to keep its long-distance services division.

However, the rise of wireless services as alternatives to landlines, as well as the entrance of such cable companies as Comcast and Time Warner into the VoIP market, has led some to conclude that the breakup of Ma Bell is irrelevant to the current telecom market.

"The world that existed in 1984 no longer exists because of changes in technology," says Robert Crandall, a senior fellow

See AT&T, page 34

Gaps in Google Apps keep big users at bay

BY JOHN FONTANA

While Google is often cited as having a golden touch, the company's productivity application suite is still a bronze competitor to Microsoft's Office and collaboration tools even after significant upgrades in the past year.

Google Apps Premier Edition (GAPE), the vendor's $50 per user productivity suite targeted at businesses, has proven worthy in certain situations, most involving universities or small-to-midsize businesses (SMB) looking to cut costs.

The platform, however, still lacks key features for large companies that build applications around productivity tools and demand tight integration and security, along with administrative controls.

GAPE consists of messaging, including Google Gmail, Calendars and Talk; collaboration, including Google Docs, Video and Sites; and e-mail security and compliance.

Over the past year, Google has been adding capabilities and APIs to satisfy customer demands, as well as Web 2.0 tools, such as video, that put a new twist on collaboration. But the work is far from over.

Nevertheless, even critics believe Google has the right model to succeed — delivering software as a service to corporate users.

Microsoft, whose Office suite has more than a 90% share of the market, is among those critics.

It endorsed the online model in October when it introduced the first online versions of fully functional Office applications available via a browser. Office Web Applications

See Google, page 14

Building a corporate service

Google is working on turning its Web-delivered productivity suite – Google Apps Premier Edition – into a worthy enterprise alternative to Microsoft's Office family of productivity and collaboration tools and other such desktop-based platforms.

Strengths	Weaknesses
• Strong e-mail hygiene, including compliance and archiving for e-mail.	• Has yet to win over a sizeable corporate user base.
• No software to install/upgrade, central storage of documents.	• Platform is not suited for complex document creation.
• Costs on low side — $50 per user.	• Document compliance/records management features still a bit of a kludge.
• Active partner community with many free or low-cost add-ons.	• Integration with other corporate productivity/collaboration platforms spotty and weak.
• Quick integration of emerging social networking tools.	• Full complement of administrative tools still under development.
• Newly added SLA covers mail and applications.	• Like internal platforms, there is downtime, but IT has no hands-on control to mitigate issues.
• SAS-70 Type II certification.	

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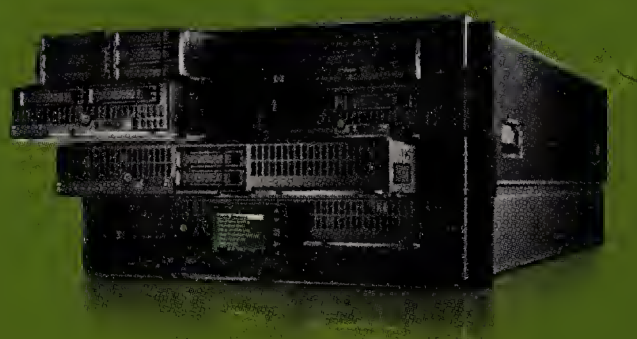

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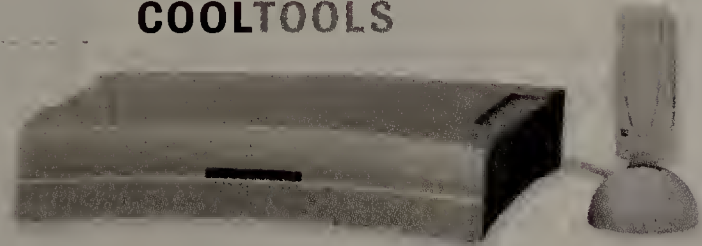

■ **Hava Titanium HD WiFi lets you transmit TV content over a wireless network.** **See Cool Tools, page 22.**

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Recession-era guide to network service contracts

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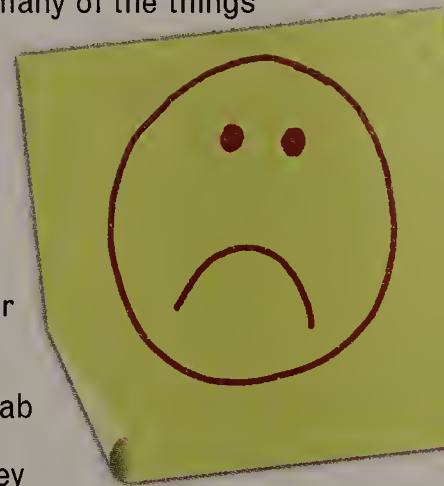
GOODBADUGLY

Better than sticky notes?

MIT researchers have developed software dubbed list.it that's designed to computerize many of the things people now do through sticky notes: organize e-mail addresses, passwords and the like. The Computer Science and Artificial Intelligence Lab researchers emphasize they aren't out to kill Post-It notes, however.



Bad week for browsers

Microsoft last week issued an emergency security patch for all versions of Internet Explorer related to a "remote code execution" vulnerability. Not to be outdone, Mozilla issued eight patches for its Firefox Web browser, three of which fix problems classified as critical.

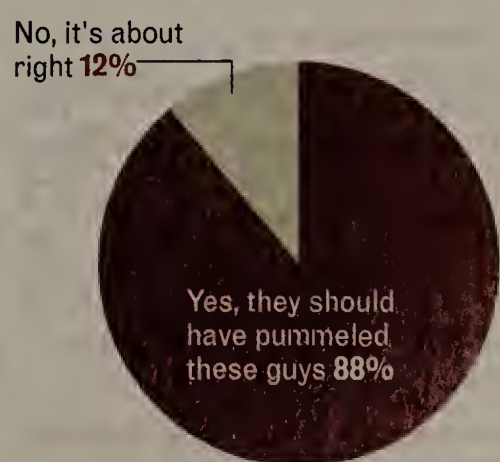
Trade show blues

Apple announced January's Macworld event will be its last and that Steve Jobs won't be speaking there. Separately, Novell killed off BrainShare 2009 because of cuts to would-be attendees' travel budgets.

POLL

A snapshot of how networkworld.com visitors voted on a key networking issue last week:

The FCC charged Sony a $1 million penalty for underage online privacy violations. Was it paltry?



Total voters for this poll: **437**

Vote and discuss: www.nwdocfinder.com/8040

An ambiguous aspect to laws and facts

Re: Hard to get justice in MySpace (www.nwdocfinder.com/8021):

While there are multiple layers in what you speak of (accurately too), one of them was pointed out by the brain behind GrokLaw, and this is that the law speaks of "facts" and "rules," which makes engineering and geek types think that the law is a straightforward situation of A + B = C when it isn't. There is still an ambiguous aspect to laws and facts that technoids don't understand.

Combine that with all the other aspects of one of these legalese [end-user agreements], and you've got a mess that requires a court to figure out, certainly not something an adolescent can (or should) have to fathom.

"The whole concept of lifestyle — whether it concerns work, investment, entertainment, privacy or research — is changing dramatically with the advent of increased mobile communications."

Legal "common sense" (don't laugh) suggests the correct MO would be to print out each of the EUAs you encounter, initial each page, and then file it in case someone doesn't like what you said, wrote, implied.

Notary authentication would be prudent too.

Michael C Tiernan

Discuss at www.nwdocfinder.com/8022

iPhone rules

Re: Smartphone showdown: iPhone vs. BlackBerry Storm (www.nwdocfinder.com/8023):

The iPhone is the device best adapted to the changing state of the enterprise — more people are working at or from home and mixing work with personal matters.

The whole concept of lifestyle — whether it concerns work, investment, entertainment, privacy or research — is changing dramatically with the advent of increased mobile communications. The BlackBerry is still hooked into traditional paradigms — the lack of Wi-Fi is a classic gotcha, forcing people down old-style carrier-dictated and expensive modes of communication. BlackBerry will have Wi-Fi within one year, but it will be too late.

Just as the Internet broke open the monopolies of distribution of news and information distribution, so shall the iPhone and similar devices break open the barriers to communicating that information. Watch it happen.

Dave Noble

Discuss at www.nwdocfinder.com/8023

Data recovery and DNS

Re: Migrating to cloud computing? Don't forget DNS (www.nwdocfinder.com/8024):

Cloud-based DNS is critical for a data-recovery site. Virtualization and cheap storage prices make secondary sites affordable even for SMBs. Outsourced DNS doesn't need to be expensive and makes it easy to redirect traffic — just keep your records' time-to-live short.

Jeffrey Breen
The Yankee Group

Discuss at www.nwdocfinder.com/8025

Enough with the Kaminsky bug already!

Re: VeriSign, NeuStar and others team on DNS security (www.nwdocfinder.com/8026):

I'm happy to raise awareness of DNSSEC's benefits, which go beyond prevention of cache poisoning. DNSSEC is a first step in making the Web and Web-dependent applications (like e-mail) a safe place for communicating things like medical records. It makes SSL and VPN fully trustworthy. DNSSEC enables further applications that can stop spam and phishing.

I wish we could focus more on these further applications rather than rehashing the Kaminsky bug as the primary reason for DNSSEC.

Steve Goodbarn

Discuss at www.nwdocfinder.com/8027

The evilest of them all

Re: The G1 and Google's Evil Quotient (www.nwdocfinder.com/8028):

It's tough for me to see Google as *more* "evil" than Apple to the criteria you are setting.

Apple is much more limiting and dictatorial.

You also failed to mention that Google is allowing a fully unlocked Android Dev Phone 1 out to developers, which Apple is not.

Michael Martin

Discuss at www.nwdocfinder.com/8029

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 492 Old Connecticut Path, Framingham, MA 01701-9002. Please include phone number and address for verification

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BLOGOSPHERE

Mobile social networking: the new face of personal antiterrorism. *Network World* editor John Cox writes in his blog, "How the mobile Web can help you survive a terrorist attack. . . . I found an ad for a Windows Mobile application, the Terrorism Survival Bundle, that addresses the tough problem of surviving a terrorist attack. Most of us, unless we're Delta Force veterans, have no clue about what to do even though helpful agencies like the Department of Homeland Security and all kinds of non-profit groups have put together lots and lots of information about this."
www.nwdocfinder.com/8033

The 12 days of Cisco. Michael Morris writes in his From the Field blog: "(Come on! You all know the song...sing along with me) On the first day of Christmas, my sales rep sent to me, a router in a juniper tree. On the second day of Christmas, my sales rep sent to me, two redundant supervisors, and a router in a juniper tree. On the third day of Christmas, my sales rep sent to me three stacked switches, two redundant supervisors, and a router in a juniper tree."
www.nwdocfinder.com/8034

Making a movie, hanging out with the PowerShell product team. Tyson Kopczynski writes in his Hidden Microsoft blog, "I had a very interesting experience in which I was cast as an extra. I can't say (I had to sign an NDA), but, I can say the movie is called "Memoirs of a Teenage Amnesiac" and it should come out in Japan sometime next year. I also recently flew back to the U.S. and met with the PowerShell product team. My time at Redmond was one of the best technical sessions I have had in a long time. Props to the PowerShell product team for taking the time to work with the group that descended upon them. I not only got to meet a bunch of really great people, but also get down and dirty with a number of the PSH 2.0 features." **www.nwdocfinder.com/8035**

Chrome Wars: Google is eyeing the corporate desktop. John Brandon writes in his Enterprise Google blog: "Don't think for a minute that Google is not eyeing the corporate desktop. They have a consumer bent to most of their apps, but a long-term corporate ambition. The latest indication: just try using Internet Explorer 7 to access your Gmail account. A red link appears saying you should upgrade for a faster e-mail experience. To what, you might ask? Why, to the latest Chrome browser. (They also list Firefox, just to be nice.)"
www.nwdocfinder.com/8041

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We present a series of videos taking a look at the past year in the world of gadgets, robots, Microsoft, Apple and other tech news.
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COOL TOOLS:

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www.nwdocfinder.com/8038

IDG NEWS WIRE:

Mouse turns 40

This week saw the 40th birthday of the computer mouse. At a Stanford University event commemorating the invention, the audience took a trip down memory lane. They watched a video from Dec. 9, 1968 where Douglas Engelbart demoed the first mouse.
www.nwdocfinder.com/8039

BEST OF NWW'S
NEWSLETTERS

A slick solution for data center virtualization

Tech exec: In a typical data center, it's common to provision more servers and storage devices than are needed in order to handle forecasted peak workloads as well as high availability and disaster recovery needs. This results in vast underutilization of expensive resources. In fact, server utilization rates are often less than 25%, which is why server virtualization has caught on like wildfire in the past few years. How would you like to go beyond virtualizing a single server and its applications? What if you could control all the servers in your data center — physical or virtual — and repurpose them on the fly based on specific business or technical triggers? If this piques your interest, then get to know Scalent Systems and its Virtual Operating Environment (V/OE). Scalent V/OE is a software solution that allows enterprise data centers to dynamically change the workloads various servers are running as well as which network and storage topologies those servers can access without needing to make physical machine, cable, LAN or SAN changes.
www.nwdocfinder.com/8030

Network management: Among the few technology areas that can actually thrive in tough economic times are management and automation technology. Vendors promising to reduce manual labor, cut operational costs and improve services to the business could win IT budget dollars even in the midst of a recession. That might be why so many management vendors have not only weaved talk of ROI and frugal investments in myriad press releases, but also have updated software licensing models to enable customers to get at their products faster, with less effort and at a lower upfront cost. Companies such as BMC, CA and HP have used the better part of 2008 to develop and/or improve their respective software-as-a-service product offerings and are now shouting from the rooftops about the quick deployment, ease of ongoing maintenance and low cost benefits SaaS can provide. HP last week went a step further by introducing zero-percent financing via its HP Financial Services. Company officials say the option will offer more ways for customers to acquire HP software without budget worries.
www.nwdocfinder.com/8031

Cisco bidding for Nortel's Ethernet biz?

Nortel is reportedly entertaining bids from three companies, including Cisco, for its Metro Ethernet Networks business unit. According to a report in the Canadian national newspaper *Globe and Mail*, companies most likely to bid on the $2 billion business include Cisco, Huawei, Ericsson and Nokia Siemens. Nortel earlier this year said it would seek buyers for MEN in an effort to raise cash to fund other businesses the company considers more strategic. Various analysts estimate that Nortel could fetch between $1 billion and $2 billion for MEN, though the current economic climate might lower that value. **www.nwdocfinder.com/8042**

Bribes, scams cost Siemens $1.6 billion. Siemens and some of its subsidiaries admit they spent more than $1.4 billion to bribe foreign officials, scammed the United Nations Oil for Food program and cooked their books for years until they were caught by prosecutors in Germany and the United States. As a penalty, the companies will pay $898.5 million in U.S. criminal fines, according to the Securities and Exchange Commission. In settlement of a separate U.S. civil proceeding involving some of the same incidents, the company agreed to give up $350 million in profits related to those violations. Penalties in various cases brought against Siemens in Munich total $856 million. The total in fines, penalties and return of profits that Siemens must pay for its illegal activities that were the subject of the charges in the United States and Germany is $1.6 billion, the SEC says. **www.nwdocfinder.com/8043**

RIM sees Storm leading stronger results. Research In Motion announced financial results that matched a warning it gave earlier this month, but executives said sales of the BlackBerry Storm touch-screen handset and other new products are brightening the company's future. RIM's revenue in the third quarter ending Nov. 29 was $2.78 billion, a 66% increase from a year earlier. Net income was $396.3 million, compared with from $370.5 million a year earlier. The profit met analysts' expectations compiled by Thomson Financial, while revenue was slightly below the consensus estimate of $2.82 billion. The quarter was hurt by the economic downturn, but also by delays in the release of the BlackBerry Storm, which finally went on sale Nov. 21. Along with the Storm, the recently introduced BlackBerry Bold and BlackBerry Curve 8900 are selling strongly, the company said. Largely on the strength of those products, RIM forecast a big jump in revenue in the current quarter to between $3.3 billion and $3.5 billion. **www.nwdocfinder.com/8044**

OpenSUSE gets more open. Novell's openSUSE project is becoming more open with a new release that includes licensing changes that make it easier to redistribute the Linux operating system, and build a service that will encourage more contributions from open source developers. OpenSUSE previously used a standard user license agreement and contained some proprietary software — namely Adobe Acrobat and Sun Java — that made it difficult to redistribute the open source software, says Joe Brockmeier, Novell's openSUSE community manager. OpenSUSE 11.1 modifies the license to eliminate some of the legal headaches, and also removes the proprietary software, which now must be downloaded separately. **www.nwdocfinder.com/8045**

Microsoft data-center leader joins rival Amazon Web Services. Microsoft has lost one of the key architects of its data-center strategy, James Hamilton, to rival Amazon Web Services. Hamilton, a former data-center futures architect at Microsoft, has left the company to become a vice president distinguished engineer at AWS. The company did not say specifically what Hamilton's role will be, saying only that he will "start putting his expertise [to work in] designing and deploying systems that are secure and that scale reliably and cost-effectively" at AWS beginning in January. **www.nwdocfinder.com/8047**

Alcatel-Lucent cuts jobs, focuses attention on three sectors. Alcatel-Lucent is naming enterprises as one of three markets it will focus on as it lays off 1,000 more workers and makes cuts in other areas in an attempt to turn around the company. Enterprise and service provider gear as well as selected vertical markets will receive the most attention, the company announced. Alcatel-Lucent had a net loss of $53.4 million last quarter. The company says it will develop products in these three areas to support use of the Internet by fixed and mobile devices, ensure QoS, privacy and the integrity of billing for Web services. Product areas that will be trimmed include its CDMA and GSM wireless gear, as well as ATM and ADSL. It will cut back in expenses for WiMAX, CPE, traditional core carrier infrastructure, non-IMS based carrier gear and some legacy applications. **www.nwdocfinder.com/8046**

Oracle profits drop slightly on strong U.S. dollar. Hurt by a strengthening U.S. dollar, Oracle announced earnings last week that were slightly below the company's previously issued guidance, and profits that fell slightly. The company reported GAAP income that fell 1% year-on-year, to $1.3 billion on $5.6 billion in revenue for its fiscal 2009 second quarter, ended Nov. 30. Revenue was up 6% from the company's tally a year ago. Earnings per share of $0.34 matched analysts' expectations, according to a survey by Thomson Financial. Software licensing revenue increased 8% during the quarter, but new software sales were down 3%, compared with year-ago numbers. CEO Larry Ellison hinted that Oracle could keep up its string of software company acquisitions, even if some companies may not want to be purchased at current market valuations. Oracle is looking at a "potential opportunity for large acquisitions if the price is right," he adds. **www.nwdocfinder.com/8048**

House tech panel priorities include health IT, e-recycling. The U.S. House of Representatives Science and Technology Committee will focus on improving health IT and math and science education, making electronics easier to recycle, and aiding research on alternative energy during 2009, the committee's chairman said. Also among the committee's priorities are legislation focused on spurring the U.S. nanotechnology industry, restructuring an R&D tax credit for the tech industry, and working with President-elect Barack Obama to establish an Advanced Research Projects Agency for Energy at the U.S. Department of Energy, similar to a research projects office at the Department of Defense, said Rep. Bart Gordon, a Tennessee Democrat and committee chairman. The Department of Energy needs to fund more projects looking at alternative energy and climate change, Gordon said. "You can't hit the ball if you don't swing the bat." **www.nwdocfinder.com/8049**

Wanted: Mobility, faster call handling

Gartner study looks at what contact centers crave

BY TIM GREENE

Innovations in presence, service-oriented architecture and mobility are what the most aggressive users of IP contact centers are looking for, according to a Gartner report.

With these tools, cutting-edge businesses hope to improve routing of calls through their centers so they are handled quickly by appropriate agents equipped with comprehensive knowledge about the caller, Gartner says in its "Magic Quadrant for Contact Center Infrastructure, Worldwide" report. The goal: faster call resolution times.

For example, call-center platforms based on Session Initiation Protocol (SIP), which all the major vendors embrace, could tap into presence information to find the most appropriate available call agent and integrate that data with CRM applications to provide the agent with comprehensive caller information. The system also could use mobility clients to tap nontraditional agents, such as workers at home or on the road, to handle calls that require particular expertise.

CRM data also could be used to determine whether callers should be placed in a faster queue or moved to the front of the line based on the level of service they've contracted for and their calling history.

"But SIP-based solutions have yet to fulfill their promise of allowing organizations to use, at low cost, contact center solutions from one vendor within another vendor's SIP-based telephony infrastructure," Gartner says. So, customers might be constrained from using some of these features or forced to use single-vendor gear to avoid compatibility issues.

As contact centers move away from plain phones to multimedia installations based in software, traditional telephony vendors such as Nortel, Siemens, and NEC are losing their stranglehold on the market to more nimble newcomers, Gartner says.

"Incumbent telephony vendors often form the 'path of least resistance' for companies planning to acquire new or refresh existing contact-center infrastructure, particularly in single-site deployments or where there is a consistent telephony provider across multiple sites," Gartner's report says. "However, in many environments, contact center infrastructure decision-makers are finding that alternative providers can offer cost, capability and architectural strengths that their incumbents cannot match," the report adds.

Rating the vendors

The main thrust of the Gartner report is to evaluate the top contact-center vendors and drop them into four categories, with vendors hoping to be classified as leaders — companies that are strong on what Gartner labels vision and execution.

From a field of 17, Gartner chose seven for that distinction: Alcatel-Lucent, Aspect Software, Avaya, Cisco, Genesys Telecommunications, Interactive Intelligence and Nortel.

Alcatel-Lucent's OmniTouch contact center products and OmniPCX phone systems are well integrated. The downside is they don't work with other vendors' gear, Gartner says.

Gartner says Aspect's products are best of breed and can integrate with multiple vendors' PBXs in a single deployment. Customers have to balance this against the company's multiple dialers and automatic-call-distribution platforms, which can cause confusion. And customers should ask to talk to other customers if they plan to use the system primarily for inbound calls.

Avaya has a broad range of call-center infrastructure and applications, and should be considered, especially along with an Avaya VoIP deployment, Gartner says.

Cisco also has a broad portfolio and competent partners, but its products have not been proved to work with third-party infrastructure, Gartner says. In addition, some of its products have fewer features than similar products from more experienced contact-center vendors.

Genesys, an Alcatel-Lucent company, has a broad range of contact center applications that integrate with its call center platform, and the company provide strong customer service, according to Gartner. The gear generally costs more than competitors,' and is most cost-effective for the largest corporate deployments.

With a focus on small-to-midsize businesses, Interactive Intelligence has tightly integrated applications and can be deployed in environments with multiple brands of PBXs or IP PBXs. Some of its competitors offer similar applications that have more features, Gartner says.

Nortel's use of Web services integrates its contact center applications well with business applications but the vendor has been slow to offer a common set of development, management and reporting tools that span its own and its partners' products, Gartner says. Nortel sells mainly to its existing PBX customers. ■

How to choose a contact center vendor

First, customers should match call center offerings' core features and functions to their individual needs, Gartner says. After that, businesses should use these criteria:

- The QoS and support offered by vendors or their channel partners.
- Whether the vendor can integrate call-center and CRM platforms.
- The annual cost of running the call center system.
- The difficulty of integrating the call center system with other systems.

InBrief

Trapeze swings for Newbury Networks

Wireless LAN vendor Trapeze Networks — itself owned by Belden — last week announced its acquisition of Newbury Networks, a vendor of WLAN-based location systems. Newbury's products let companies use 802.11 access points to track, monitor and manage a range of corporate assets, such as portable heart monitors in a hospital or valuable equipment or supplies in a warehouse. Newbury also offers a security application that uses location data to identify and block potential wireless attackers. The 16-person Newbury staff will remain onboard, and the company will be run as an independent business of Trapeze, with Newbury CEO Michael Maggio reporting to Trapeze president Jim Vogt. No financial details of the purchase were disclosed.

Novell axes BrainShare

Novell has alerted customers and partners that it is cancelling its annual BrainShare conference, scheduled for Salt Lake City in March, because of would-be attendees' restricted travel budgets. Novell has held the event for more than 20 years, says John Dragoon, the company's senior vice president and chief marketing officer. He wrote in a letter that "many of you have indicated that because of the current economic climate, you are under increasing pressure to reduce travel and other controllable expenses and are hesitant to commit to attending our BrainShare 2009 conference." He pledged that Novell will seek other ways to provide continued education and support to customers and partners.

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Microsoft's mobile browser test

BY JOHN COX

With the pending 2009 release of Internet Explorer Mobile 6, Microsoft is making a major change in its approach to the mobile Web. It's about time, according to some.

The new browser isn't a secret, but it's only recently that Microsoft has released details, as well as an application emulator, to give a clearer picture of what users can expect. The company even hasn't released any public videos of the browser: Only OEM partners willing to sign nondisclosure agreements can get them.

IE Mobile 6 will be a major improvement compared to the limited browser currently available on devices powered by the Windows Mobile operating system, including the most recent version, 6.1. For the first time, as part of a future upgrade to the operating system, users will be able to display standard Web pages, including Adobe Flash content.

There's a lot riding on this, in light of Apple's success with the iPhone and its Safari Web browser in showing many U.S. users that mobile access to the Web can match desktop browser access. And there are plenty of mobile browser rivals.

"Microsoft is woefully behind in the mobile space," says Carl Howe, director of Anywhere Consumer Research at the Yankee Group. "They don't have a full-featured, standards-compliant browser on their Windows Mobile products, nor will they have one for another six months. Further, they don't have anything approaching a dominant market share in mobile, meaning that they don't have the marketplace control necessary to force the industry to adopt a non-standard [mobile] Internet Explorer."

IE Mobile 6, not even in beta release, is being criticized by some as supporting fewer Web standards than the latest desktop browser, Internet Explorer 7. In addition, it requires some muscular hardware resources: 128MB of RAM, and a 400MHz processor, according to Microsoft. Nor will it be available as a separate product: The handheld's operating system has to be reflashed to support the new browser, so Microsoft will partner with device makers and mobile operators to supply it. The first release will be on phones with mobile operator China Mobile sometime in 2009.

Technically, IE Mobile 6 combines elements of IE 6, IE 7 and IE 8, now in beta test. Microsoft product managers stress the new mobile browser puts a premium on making it easy for users to transact on the Web, not just view it — to complete a range of tasks successfully, such as filling in a form, securely logging into a site and transferring funds between bank accounts.

No code has been released publicly, but in November Microsoft announced a package of emulator images, which developers can add to Visual Studio 2005 or 2008 to test applications.

Here's what you can expect in the new mobile browser:

- For the first time, a full HTML rendering engine, but one based on the code from the IE 6 version, released in 2001.
- Support for Adobe Flash Lite 3.1, a mobile version of the Flash runtime engine that's widely used in Web sites and desktop browsers to show interactive content and video.
- AJAX support and Jscript 5.7, from the forthcoming IE 8, which will support a "very high degree of interactivity," says Karen Wong-Duncan, product manager with Microsoft's Windows Mobile group (Jscript is Microsoft's implementation of the ECMAScript Edition 3 specification).
- The ability to switch between full HTML browsing, and browsing of Web-site content specifically designed for mobile devices.
- An array of user interface improvements, including touch (but not multi-touch, as with the iPhone) with support for panning, Web search integrated with the browser's address bar, and multiple levels of zooming.

For some observers, this is not the cutting edge of the mobile Web. In part, that's because Microsoft remains focused not on the new browser war but on the mobile-operating-system war, says Frank Dickson, co-founder and chief research officer for MultiMedia Intelligence, a market research consultancy.

"I would call Microsoft's current [mobile] position 'developing,'" Dickson says. "In this new world, the classic browser and the operating system seem to be tightly coupled. The big giants like Nokia, Google and Microsoft have awakened and are moving fast. The insurgents like Research In Motion and Apple are stealing market share. 2009 will see a flurry of new offerings. . . . 2010 will be the year we start seeing some shake-out."

Web developer Bruce Lawson of the non-profit Web Standards Project (WSP), which promotes Web standards to reduce the cost and complications of development, downloaded the Microsoft emulator, ran some compliance tests and posted the results on his blog. He was not impressed.

For example, the results of testing the Cascading Style Sheets selectors were these: "From the 43 selectors, 10 have passed. 1 [is] buggy and 3 are unsupported." Lawson noted that desktop IE 7 passed 13 of the selectors. Applying WSP's Acid2 and Acid3 tests (sample Web pages that test a browser's ability to use specific Web standards) resulted in screen images that were largely non-functional.

"This is a terrible situation," Lawson wrote. "Twenty percent of the world's population [China] are being offered an ancient, discredited browser." Lawson, on vacation, did not respond to an e-mail inquiry by our deadline.

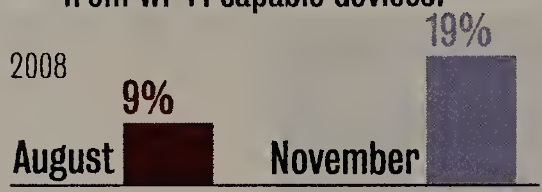
"Microsoft looks to support standards whenever possible," replies Microsoft's Wong-Duncan.

See Microsoft, page 12

IE Mobile 6 to arrive as mobile Web usage soars

Mobile browsing is surging in the U.S., spurred in part by the iPhone's Safari Web browser, which fully renders HTML content, and the iPhone's multi-touch screen, which makes using the content easy. Microsoft's upcoming IE Mobile 6 will woo if not wow users in 2009.

1 Percent of the total requests made from Wi-Fi capable devices:



2 Percent of total requests made on Wi-Fi networks:

3 By handset...	% of all Wi-Fi requests	% of handset requests on Wi-Fi
Apple iPhone	50.6%	42%
HTC Dash	0.9	16
RIM BlackBerry 8320	0.8	8
HTC Dream (G1)	0.8	10
HTC Herald	0.7	18

SOURCE: ADMOB MOBILE METRICS REPORT, NOVEMBER 2008

Is virtualization safe? Views within IT differ

BY ELLEN MESSMER

Does transitioning to virtualization increase security risks within a company?

IT managers appear to be at loggerheads with IT security professionals over that question, even while sharing similar opinions on where risks might lie, according to a new survey.

The 2009 Security Mega Trends Survey from research firm Ponemon Institute — which also looked at attitudes on other topics, such as outsourcing and Web 2.0 technologies — shows roughly two-thirds of IT operations staff who responded said they felt virtualization of computer resources did not increase information-security risks. But about two-thirds of information security professionals surveyed felt the opposite way.

Three-quarters of the survey's 1,402 respondents, all active in U.S.-based private sector firms or government agencies, said their organizations had already implemented virtualization of their computer resources, with about 90% in both the IT and security camps saying they were "familiar" or "very familiar" with virtualization.

The survey reflects the often upbeat attitudes about virtualization expressed by experienced IT pros about how the technology, most commonly that of VMware, Microsoft or Citrix Xen, is bringing them the benefit of server consolidation.

"We started virtualization in a development and test environment, and now the main applications we have using VMware in production instances are file and print servers," says Rich Wagner, director of IT infrastructure at Columbus, Ohio-based Hexion Specialty Chemicals. Wagner says virtualization hasn't raised red flags as far as security requirements. The main concern, he says, is "from a performance standpoint — the CPU and memory and disk I/O — in sharing a large box," with database servers seen as a resource-intensive application that might not be well suited for virtualization.

There's a far more skeptical view of virtualization security often expressed by seasoned IT security pros, who harbor doubts that vendors on the virtualization front have really sorted out or addressed the risks associated with the underlying hypervisor transformation.

"The security for the virtualization itself is way, way behind," says Nelson Martinez, systems support manager for the City of Miami Beach, who is responsible for IT security in systems used by the city's 2,000 employees. Martinez says the city does make use of VMware for some Web servers, but "I would never host any kind of database or my e-mail server in that environment." There are performance and maintenance issues in running traditional security applications for each VM host application on each physical machine, while the industry still seems to be sorting out the security role the hypervisor can play, Martinez says.

Jim Waggoner, director of product management at Symantec, says the three primary virtual-machine software providers, VMware, Citrix Xen and Microsoft, are still working on new approaches to security in a virtual-machine environment that aren't yet out and available.

"We're in partnerships with all three of them," Waggoner says, noting the goal is to find ways for security applications running on virtual machines to use less CPU because users are already grappling with performance issues. "There's the expectation that security won't have an additional effect on the application," he says.

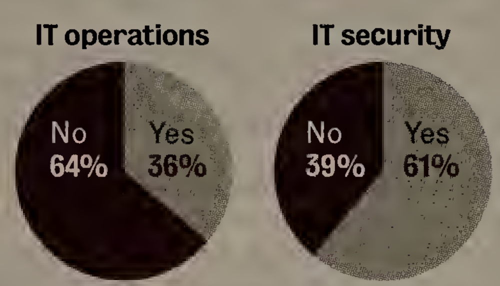
While he hasn't seen huge skepticism about security in virtualization, Waggoner says he has encountered IT staff at companies who believe that once servers or desktops are virtualized, they "don't need any malware protection at all," a stance he would argue against.

In the Ponemon survey, the 825 individuals in IT operations and 577 information security professionals who answered questions about virtualization were in general agreement that the most significant security risk associated with virtualization was the inability to properly identify and authenticate users to multiple systems. ■

Is virtualization a risky business?

Depends on who you ask. According to Ponemon Institute's "2009 Security Mega Trends Survey," IT operations staff and IT security staff see things very differently.

"Do you believe that virtualization increases the security risks within your company?"



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Red Hat extends enterprise Linux maintenance

BY ELIZABETH MONTALBANO, IDG NEWS SERVICE

Red Hat last week unveiled a service aimed at making it more cost-effective for its customers to run and maintain one version of Red Hat Enterprise Linux for a longer period of time, reducing management and administration costs, the company said.

Extended Update Support (EUS), a new maintenance option for RHEL customers, allows them to standardize their IT environments on a version of RHEL for 18 months instead of six months, which is the current time frame for Red Hat's maintenance contract, says Gerry Riveros, product marketing manager for EUS.

Through EUS, Red Hat will support whatever standard version of RHEL a customer uses with bug fixes and updates for 18 months. That means customers won't have to recertify or update all their applications and hardware for a new version of RHEL until that period is over, Riveros says.

This recertification process costs money and takes up IT resources, so EUS provides an option that is more cost-effective for customers than updating every six months — which is what customers usually have to do on the current maintenance contract, Riveros says.

"There is a set of customers that would like to be able to run RHEL as long as possible without reevaluation," Riveros says.

Customers, particularly those with mission-critical environments, don't like to update their operating systems too frequently because they are afraid that changes they make could cause performance problems in their IT system, Riveros says.

Stephen O'Grady, an analyst with Redmonk, agrees that "for customers with large, highly specific and standardized deployments, change is bad, even the kind of QA'd change that Red Hat and other vendors provide." By slowing that rate of change, the customer is able to reduce its overall platform risk," he says.

With the U.S. recession, companies also are looking to cut costs from their IT budgets, and being able to maintain RHEL for a longer time will help them do that.

EUS costs the same as Red Hat's current maintenance service, which varies depending on how many machines a customer has. For as many as 100 machines, maintenance starts at $60,000 a year; for as many as 500 machines, it starts at $80,000 a year, and so on, Riveros says.

Red Hat will continue to offer its current maintenance plan, which provides operating system updates and bug fixes every six months, Riveros adds. ■

BMC tools will be key to Cisco's blade plan

BY JIM DUFFY

BMC Software will contribute data-center automation tools for Cisco's upcoming "California" blade server, *Network World* has learned.

Sources involved in and briefed on California say the new Cisco data-center blade servers will run BMC software that is key to Cisco's unified-computing concept of tightly integrating computing and network resources. Specifically, the software will reprovision network resources when virtual-machine workloads are moved around.

Generally, BMC will be supplying a key piece of the management and computing intelligence in California, the sources say, who requested anonymity.

BMC and Cisco declined to comment.

Expected in January, California might be Cisco's most significant product in years. It will take the networking giant into the data-center computing realm, which partners — and soon to be rivals — IBM and HP have owned for decades.

California also underscores how strategic control of data-center computing is to Cisco as it looks to enter adjacent markets beyond networking for growth. Indeed, Cisco CEO John Chamber has said repeatedly that the company's ambition is to become a global provider of IT — not just networking.

BMC is so strategic to California, and California is so strategic to Cisco that Cisco may look to acquire all or parts of the systems-management company, sources say.

"If they could bolster their data center story by acquiring BMC, they would," said one source. "It's always on the radar."

That would ratchet up the imminent competition among Cisco and HP and IBM, because BMC also competes with the systems management capabilities of those companies in controlling data center operations.

HP, for one, isn't taking it lying down. In January, the company's ProCurve networking unit, which increasingly is gaining share on Cisco in Ethernet switching, plans to unveil a branch-office routing system to take on Cisco's Integrated Services Router, sources say.

The system will have a switching architecture with branch routing modules, and services capabilities from partner companies: Avaya for VoIP unified communications, Riverbed Technology for WAN optimization, Microsoft Office Communications Server and McAfee security, sources say.

"They don't have a viable branch story" to date, one source says about HP ProCurve, which is becoming more tightly aligned with HP's Technology Solutions Group. "This will be a response to 'California.'"

HP ProCurve declined to comment. ProCurve is now the clear No. 2 vendor in Ethernet switching behind Cisco. The company's revenue share grew 9% in the third quarter, according to Dell'Oro Group. In 2007, HP ProCurve's share grew to 4.8% from 3.8% in 2006.

Cisco still owns more than 70% of the Ethernet switching market, Dell'Oro says. ■

Microsoft

continued from page 10

"As you may know, we have been increasing our Web standards compliance with every new desktop version, and that's an ongoing commitment for mobile as well." The present level of compliance, far from being an obstacle, is a benefit to Web developers who "do not have to do anything to extend their existing assets to mobile," she says.

"Additionally, we know that standards compliance by itself is insufficient," Wong-Duncan says. Sufficiency entails the ability to perform tasks and transactions, not just view standard Web pages. She cites Microsoft's own tests, working with an unnamed third-party consultancy, that showed IE Mobile 6 had the highest number of completions for a range of Web transactions compared with several rival browsers. She didn't name the other browsers, and Microsoft has not released the test data.

Even with the improvements and the benefits cited by Wong-Duncan, users have a growing number of alternatives from vendors pushing mobile innovation. These include two mobile browsers from Opera Software; Firefox for Mobile ("Fennec") from Mozilla; a browser with the Open Handset Alliance's Android mobile OS (separate from Google's Chrome desktop browser); the Nokia browser for Symbian-based phones; and server-based browser introductions from Skyfire Labs and Bitstream.

One key advance is enabling JavaScript access by mobile browsers to access a phone's GPS data or its digital camera, says Jason Grigsby, vice president of Web strategies for Cloud Four, a Web developer in Portland, Ore. "The browsers like Android, Nokia and Opera are attempting to add features that expose specific [mobile] device properties to Web developers through browser interfaces," he says. "It's happening a bit faster than I anticipated."

If it's happening faster than Microsoft anticipated, IE Mobile 6 will be perpetually catching up. ■

DNS CHANGE MAKERS

LIU'S VIEW.

Mastering DNS has always been challenging – some would say it's as much art as science. And while I'm thrilled that DNS plays a key role in essentially all network applications, I'm concerned by current trends. We're now seeing more frequent attacks against DNS infrastructure. Recently, for example, we saw a spate of what are referred to as "DNS amplification" attacks in which open recursive name servers are used as amplifiers to swamp targets on the Internet. Turns out that name servers are terrific amplifiers – you can get an amplification factor of nearly 100x. These attacks have raised awareness of the vulnerability of Internet name servers, which is possibly the only positive result.

Dealing with DNS issues is becoming a full time job for organizations. My company, Infoblox, provides leading edge products to help IT managers better handle their DNS network management challenges.

When I need an answer fast, I go to a source I trust – DNSstuff.com. Comprehensive troubleshooting and problem solving tools in one place. That's powerful. Think all DNS tools are the same? Think again.

Cricket Liu, DNS guru, author & VP of Architecture, Infoblox

DNSstuff.com

WHEN GOOD **ISN'T** GOOD ENOUGH.

Google
continued from page 1

are in private testing and are slated for inclusion with Office 14. Microsoft already has its toe in the water with Office Live Workspaces and with Exchange and SharePoint Online Services.

While the future may hold promise, the current position for GAPE is that of worthy alternative and not as serious contender to replace Office or other collaboration platforms.

Google, however, may make its mark not by rising to the top of the heap, but by redefining collaboration and carving the most innovative turns around Web 2.0.

"The Google model is not wrong, it is just immature," says Guy Creese, a Burton Group analyst. This month he is releasing a report entitled: "Is It Time to Ditch Microsoft Office?"

It is an interesting question because Google isn't lagging for lack of trying.

The company is refining its platform to include new features that appeal to — and are required by — corporate users. And it is adding Web 2.0 twists and integrating social software.

What Postini brings

In July 2007, Google made its biggest investment toward satisfying corporate users when it laid out $625 million for e-mail security vendor Postini, which provided the compliance, archiving and e-mail protection GAPE lacked.

The Postini service provides security for e-mail, instant messaging and the Web; archiving; message encryption; and policy enforcement of Transport Layer Security. And because Postini's archiving and compliance only covers e-mail, Google last month released an API to address documents.

"We let you connect your Google Docs with the other systems you use for compliance," says Rajen Sheth, senior product manager for Google Apps.

Sheth also cites the addition of Google Sites, a wiki-based team sharing tool, and Google Video, based on capabilities inherited from its YouTube division.

Google has added a service-level agreement and is working on an administrative dashboard that shows how its systems are running and their health. The tool comes after a string of outages that crippled GAPE in the past months.

And in November, Google earned its SAS-70 Type II certification, which public companies under the Sarbanes-Oxley Act require from their hosting providers.

In addition, Google and its partners are busy ratcheting up the feature set, such as Panorama Software's business intelligence tool called Analytics for Google Spreadsheets.

"This is not about replacing, it is about solving old problems in new ways with Google Docs," says Oudi Antebi, vice president of strategy for Panorama. Antebi, who came to Panorama after eight years at Microsoft, says enterprise interest in GAPE lags because many are looking at it as a replacement instead of an extension to what they already have.

One example of Google's potential power is seen in the District of Columbia government, which uses Google's productivity suite to cut costs as well as provide anywhere access, mobile integration and a collaboration platform that evolves on Internet time for its 38,000 employees.

Vivek Kundra, CTO for the D.C. government, is blazing such a path with his Google-based projects. He is rumored to be helping President-elect Barack Obama's transition team work through its technology agenda focused on "cutting-edge technologies to create a new level of transparency, accountability and participation for America's citizens."

Kundra's innovations around Google Apps include a video job board, where D.C. hiring managers post descriptions of openings; a wiki built with text and video explaining and soliciting participation in D.C.'s procurement process; and his latest project where he provided a list of contractors D.C. has hired, the projects they are working on and their pay rates. "What we have created is transparency," Kundra says.

Kundra also launched Apps for Democracy, a contest to build applications on top of the Google platform using any of the 216 data feeds from the D.C. Data Catalog, including most recent road-kill pickups. The contest yielded 47 applications in 30 days at a cost of $50,000. Kundra estimated the price would have been $2.6 million if done using D.C.'s old form of in-house development. Seven of the applications are now running in production.

"This is the power [you get] when you greatly democratize the ability to create, publish and distribute content," Kundra says. "Before, you relied on a massive IT operation with developers, Web editors and writers. Now we shift power to the individual employee."

But Kundra recognizes Google Apps also has its weaknesses. D.C. still uses Microsoft Office, which he says is better suited for creating complex documents, and he is still waiting for Google integration with Exchange calendars.

Climbing the mountain

One barrier to Google's success is the fact that it is a crowded race to become second fiddle and take a run at Microsoft's dominance.

Since launching GAPE in February 2007, Google has earned $4 million compared with $12.2 billion for Microsoft's Office, according to Gartner. Google won't clarify its number of paid users other than to say it has "hundreds of thousands."

And there are a host of other competitors, including IBM Lotus Symphony, Corel WordPerfect Office, OpenOffice.org, Sun StarOffice, ThinkFree and Zoho, as well as lesser known vendors such as Ability Office, Celframe Office, KOffice, Gnome Office and SoftMaker Office.

In a study released last month, Clickstream found that use of free versions of productivity tools such as Google Docs and OpenOffice remain low and that use of Microsoft Office showed no decline.

Clickstream spent six months tracking usage among 2,400 adults using the tools at home and found that 51% used Microsoft Office, while only 5% used Open Office, 1% used Google Docs and 0.3% Google Spreadsheets.

Clickstream concluded that "although Google Docs and Spreadsheets has been touted as a potential competitor to the Microsoft Office suite, OpenOffice is currently the more likely app to take that position, possibly indicating the value of offline and local processing enabled by installed applications."

What's missing?

Critics and Google agree there is work to do.

Burton Group's Creese says Google provides only rudimentary e-mail distribution lists, lacks the ability to do administration via roles, and does not support Office 2007 file formats.

"If you standardized on [Office 2007] you are in trouble," he says. The software also does not translate all graphics from Word documents, supports only a dozen or so fonts, does not provide in-box delegation features and imposes file size limitations when importing documents.

"If you are trying to collaborate on PowerPoint you could hit the limit," Creese says.

He thinks SMBs may be able to go completely to GAPE, but "a large corporation cannot do that. It will always have a mixed environment and you have to worry about these translation issues."

He adds that for Google Apps to take off it has to present new ways of working rather than just making software less expensive. "In the long run, we will see a movement to the software-as-a-service office suite in some form," he says.

Google's Sheth would not provide details of coming features for GAPE, but agreed with the list of issues cited by Creese and others. "We already have a robust enterprise offering; of course there is more we can do. We are building that list and adding more and more functionality," he says.

The challenge is clear to many.

"Google needs to keep innovating around new ways that people work," says Tony Safoian, president and CEO of SadaSystems, a consulting and development firm that is both a Microsoft and a Google partner. "I can work with five people at the same time on the same spreadsheet and get the work done. That is how people work today. Google needs to continue to move along the lines of the collaborative work environment where people find things in a few seconds instead of hours or days. That is where Google's edge is now."

SadaSystems has made a significant investment in building Google Apps implementations and will continue to move users to the cloud.

"We are betting big on this technology," Safoian says.

Now the question is whether corporate users bet big on Google and its innovations or stick with Microsoft as it moves to its hybrid world of software and services. ■

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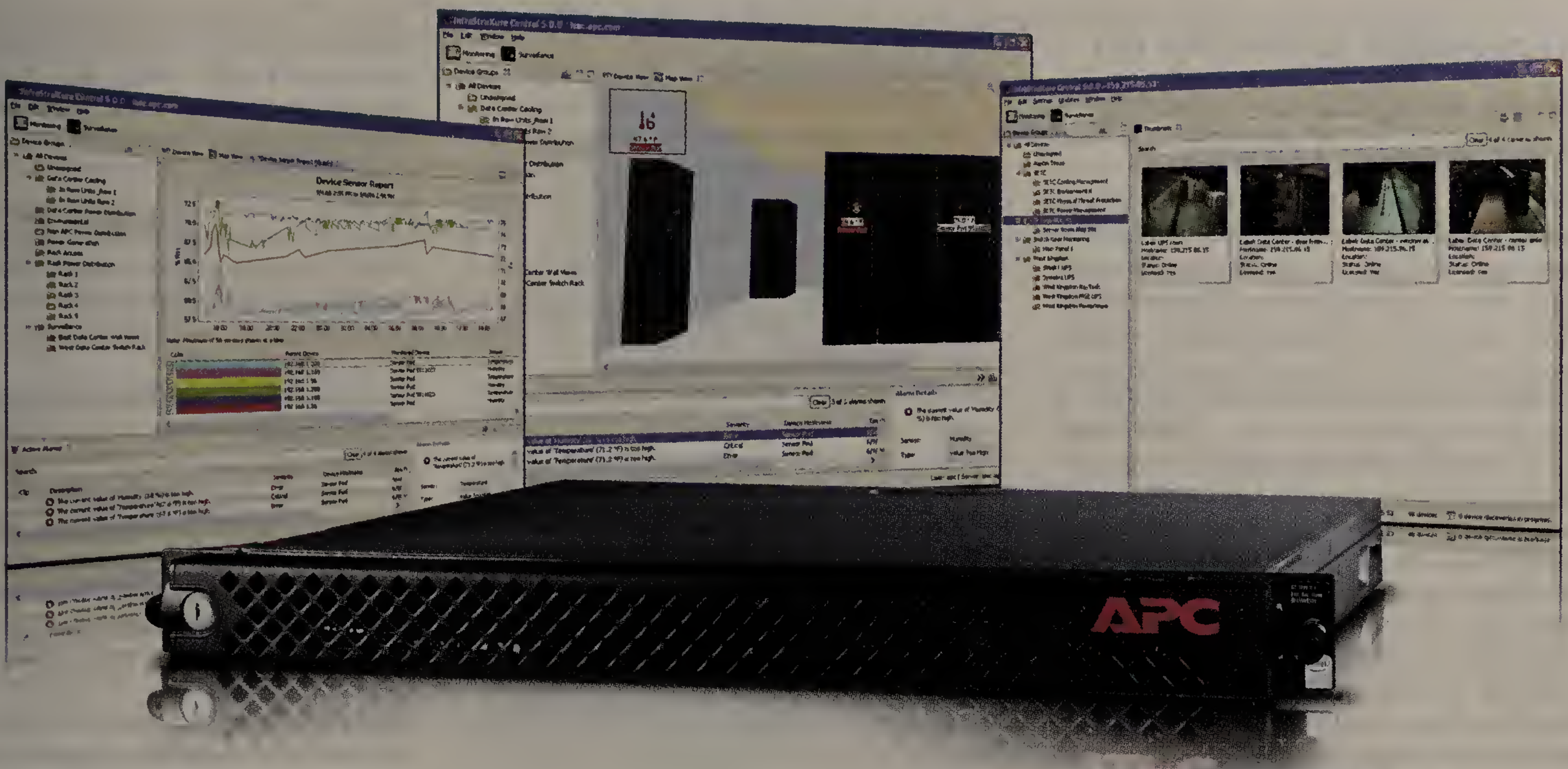

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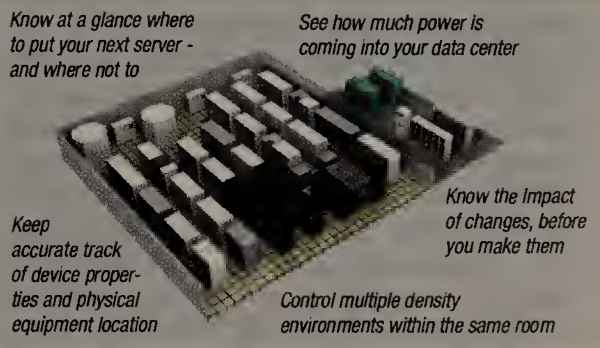

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Economy driving green IT initiatives

Companies speeding up green programs exceed those slowing down

BY JON BRODKIN

Economic recession is causing many companies to ramp up the speed of green IT initiatives, while a much smaller number of companies have decided to slow down their green activities.

The lion's share of more than 1,000 companies surveyed by Forrester Research are not making any changes to their green programs. Among those who will, however, the number of companies accelerating green IT is twice as high as the number slowing down.

"The data is counterintuitive only at first glance," Forrester analyst Christopher Mines writes in a report released last week. "Companies are realizing that 'green means green' — more sustainable computing operations are also more efficient and less costly."

Ten percent of the companies surveyed are accelerating green IT initiatives, while 5% are slowing down. The remaining 85% are maintaining the same pace or say it's too early to know what impact the worsening economy will have on their green IT plans. Interest in the topic of energy efficiency seems to be growing, Forrester says, noting that its most recent poll in October garnered the largest response of any green survey the analyst firm has conducted.

The companies surveyed are distributed through the United States, Europe, Middle East, Africa, Asia Pacific, Japan and other regions, and are mostly large, with 71% having at least 1,000 employees.

Naturally, saving money on energy costs is the primary motivating factor causing corporations to ramp up green IT efforts, particularly in the United States. Overseas, there is more concern about aligning IT with corporate green initiatives and using green to improve brand image.

Overall, 25% of companies are implementing a comprehensive green IT program, compared with 15% last year and 20% in April. Another 27% are drawing up plans to go green, and 34% are considering doing so.

Nearly six in ten companies already are using green criteria in their IT procurement process, and one in ten use a professional services provider to help plan or implement a green IT program.

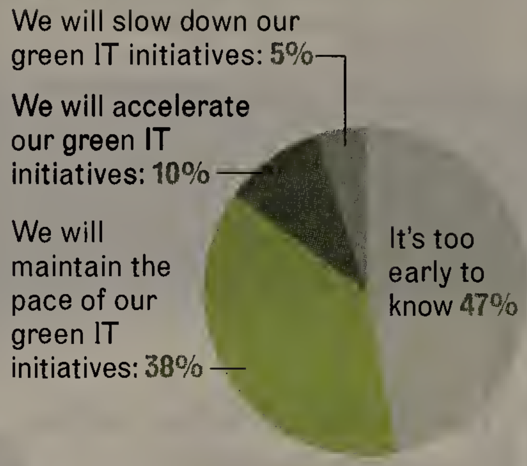
Previous Forrester research predicted that the worldwide market for green IT services will grow from $500 million in 2008 to nearly $5 billion in 2013, and Mines writes that the recent survey data makes the analyst firm more confident in that prediction.

"It is a very encouraging data point for all of us in the IT industry who have been promoting the energy savings and reduced total cost of ownership of more efficient hardware and software," he writes. ■

Green progress

Most companies are not deferring their green IT projects because of the slowing economy, Forrester Research found in a survey of IT professionals at 1,022 companies.

What impact, if any, does the worsening economic outlook have on your organization's green IT initiatives?



Corporate IT budgets falling, report says

BY CAROLYN DUFFY MARSAN

U.S. corporate IT spending will plummet 10% to 20% in 2009, according to the latest projections from Citi Investment Research, which is reporting a "rapid deterioration" of CIO budgets in recent weeks.

Citi's outlook is the most negative of any major research outfit to date. Forrester Research as of last week was still projecting 1.6% growth.

Citi's dire prediction is an about-face from the results of a survey of 200 CIOs in September, which indicated that corporate IT spending on hardware, software and services would grow 1% next year.

The collapse of the financial markets is causing CIO budgets to dry up.

"Financial services IT budgets look to be down 10% to 20%," says Citi spokeswoman MaryEllen Hillery, who adds that nonfinancial services firms have less visibility into their IT budgets but are projecting declines.

"It's the events of the last couple months — the credit crisis, the heightened focus on cash outlays of all kinds, consumer spending trends, employment trends, the realization that this is a really bad downturn we are looking at," Hillery adds.

If Citi's prediction is true, next year will be the worst year ever for corporate IT budgets.

"To put this in perspective, we have had overall IT spending at flattish only once before — in 2002 — while all other years the IT budget has grown."

The Citi research report, titled "IT Services Update — Recent Checks Negative," was released last week.

One of the challenges for forecasters such as Citi is that IT executives are later than usual at finalizing their IT budgets for the first quarter of 2009. This is causing IT buyers to defer spending until the second half of 2009 to protect against future budget cuts.

"Clearly budget discussions have gone poorly for CIOs following the market dislocation in September and October," the report states.

Banks are further along at cutting their IT budgets for next year and are pressuring IT services firms for discounts as high as 15% from 2008 fees. Citi says that while the financial services sector is being most aggressive in demanding price cuts from IT vendors, the retail, media and technology sectors are likely to follow suit.

To cut their budgets, CIOs are expected to shrink IT projects, postpone new developments and outsource more of their operations to lower-cost locations.

"Most companies will use a combination of factors to get to their lower budget," the report said.

The Citi report provided 2009 projections for three IT services firms: Accenture, Cognizant and Infosys.

Citi says Infosys and Cognizant were its top picks for offshoring, but that all three vendors should be able to weather price pressure from customers with higher volumes as more companies do IT work offshore.

"The offshore value proposition is alive and well, as IT buyers indicate that moving work offshore is a proven way to lower systems costs in a tough environment," the report says. "However, slow decision making hurts; post budget acceleration should help." ■

Top 10 Ethernet switch stories of 2008

Juniper goes after Cisco in switching, industry consolidations and more

BY JIM DUFFY

In terms of significant announcements, 2008 did not disappoint in Ethernet switching: Juniper entered the market, Cisco unveiled its next-generation platform, and other major vendors consolidated. It will be hard for 2009 to match. Here's a countdown of the top 10 stories for the year soon to pass.

10. Advanced switching grabs Interop New York spotlight.

Three major vendors — Foundry Networks, Enterasys Networks and Force 10 Networks — used the bright lights of Interop New York in September to unveil switching upgrades for next-generation environments, such as those supporting video, unified communications, IPv6 and embedded security. Some of the offerings underscore the trend towards tackling these requirements on behalf of smaller businesses and workgroups rather than core data centers, which vendors view as a high-growth subset of the overall enterprise switching market.

9. Woven weaves 10G at $500 per port.

While not exactly a powerhouse data center switch vendor, Woven is influential, and its plan to offer 10G at $500 per port announced in October will surely have a ripple effect throughout data center switch pricing. The lower price will make upgrading to 10G more affordable and allow users to quickly increase the capacity of their data center networks. Woven's move follows the $400 per 10G port introduction of Andy Bechtolsheim-funded start-up Arista Networks' top-of-rack switch.

8. HP bolsters wireless LAN stature with Colubris buy.

As HP ProCurve continues to solidify its position as the No. 2 player to Cisco in enterprise Ethernet switching, the company broadened its arsenal by announcing in August plans to acquire WLAN vendor Colubris Networks. It's a strategic move by HP ProCurve to increase its visibility in the WLAN market and extend its penetration into key vertical markets. Colubris gives HP ProCurve IEEE 802.11n products and a stronger, broader presence in such markets as education, hospitality, transportation, healthcare, manufacturing and service providers.

7. Ex-Cisco exec drawn to start-up Arista's software.

Former Cisco data center chief Jayshree Ullal said in October that she had landed at switching start-up Arista Networks as its new CEO. Arista, started by Sun co-founder Andy Bechtolsheim, made waves by packing 48 10-Gigabit Ethernet ports into 1RU for the data center. That Arista attracted an executive of Ullal's stature indicates that the company may have some intriguing technology and market prospects. Indeed, instead of the inexpensive port density and form factor of the hardware, it's Arista's modular software architecture that appealed to Ullal.

6. Siemens Enterprise, Enterasys in $550 million joint venture.

In another example of industry consolidation, Enterasys owner Gores Group in July said it was acquiring a 51% stake in Siemens Enterprise Communications, and announced intentions of combining it with Enterasys. The union results in a $5 billion global player in secure switching, unified communications and WLANs. It is also intended to create a much stronger player to go up against Cisco in enterprise accounts. Enterasys CEO Mike Fabiaschi, who died unexpectedly shortly after the joint venture was announced, had spoken openly of Enterasys' intentions to acquire its way into the $1 billion-plus switching club.

5. Nortel looks to software as it shops Metro Ethernet unit.

Cash-strapped Nortel revealed in September that it is looking to sell its Carrier Ethernet business in order to fund its enterprise Ethernet ambitions. With each passing quarter that falls short of expectations, the company is clinging tighter to markets it views as strategic and growing, such as enterprise. But at the same time, Nortel is becoming weaker and observers expect it to sell itself off in pieces and/or file for bankruptcy. Selling a high-growth business such as Metro Ethernet is indicative of just how precarious Nortel's position has become.

4. Ethernet data center standards are just the start.

Significant work remains before standards for a loss-less version of Ethernet for data centers, capable of carrying server, storage and network traffic, can be achieved. A big piece of that standards puzzle — the IEEE's Data Center Bridging work — won't be ready until March 2010. Meanwhile, vendors such as Cisco will release prestandard versions of loss-less Ethernet and others see the need to extend beyond the standard for features such as congestion management.

3. Juniper puts best light on late data center switch.

Juniper in November glossed over the fact that its chassis-based EX switch, which carries the company's hopes of capturing substantial share in enterprise Ethernet switching, is up to nine months late in coming to market. The switch was initially slated for the second half of 2008 availability; it instead will ship in the first quarter of 2009. To sweeten its delay, Juniper makes a compelling total cost of ownership case for the EX 8208 in data center deployments alongside its other EX and MX switches, SRX security platforms and network management system.

2. Watch out Cisco: Here comes Brocade/Foundry.

Storage-area network (SAN) switch maker Brocade announced in July its intention to acquire Foundry Networks in preparation for the upcoming unified fabric battle with Cisco in the data center. It's also an indication of consolidation happening in the Ethernet switch market as Cisco continues to distance itself from competitors and Juniper readies its entry. Foundry gives Brocade a credible, high-performance Ethernet switching lineup to add to its SAN arsenal to create an end-to-end alternative for next-generation data centers unifying Fibre Channel and Ethernet. While Cisco may feel some heat from the union, analysts say it's more likely to impact other players who have not yet outlined a unified fabric strategy for the data center.

1. Cisco, Juniper lead switching splash.

In the same week during January, Cisco announced the Nexus 7000, its next-generation data center switch, and Juniper unveiled its entry into enterprise Ethernet switching with the EX line. That both announcements came within a day of each other indicates how testy the competition between the two vendors is. Juniper's EX launch demonstrates the company's resolve in looking to become a major enterprise player and a credible No. 2 to Cisco, just as it is in carrier routing. Cisco's Nexus debut may leave Juniper that opening by encouraging customers to consider a major product transition from a longtime legacy of Catalyst 6500 deployments. ■

ONLINE: Backbone switches

This Buyer's Guide provides detailed descriptions of Ethernet-based switches that sit in the backbone of an enterprise network and forward traffic at both Layer 2 and 3 of the OSI model. These products include support for a wide variety of port counts and Ethernet speeds, multiple forwarding technologies and a long list of security and management features.

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How about a UAW-style 'jobs bank' for IT workers?

CACHE ADVANCE
Linda Musthaler

U.S. auto makers have been pleading their case for why they need a federal financial bailout to keep operating. The United Auto Workers, the union that represents many non-management auto workers, has acknowledged it must concede some of the employee benefits that were written into labor contracts over the years. Grudgingly, the UAW has agreed to give up the jobs bank program.

My jaw just about hit the floor when I read the details about the program.

The program started in the 1980s when American automobile manufacturers wanted to boost productivity by increasing the automation used in their plants and using more-flexible manufacturing techniques. Because the UAW feared massive job losses from automation, union leaders pushed the auto makers and a major supplier to create a form of private unemployment called the jobs bank. General Motors, Chrysler, Ford and Delphi agreed to put hundreds of millions of dollars (each!) into the "bank" so that displaced workers could continue to collect a paycheck — whether they worked or not.

In 2005, more than 12,000 people were paid not to work. What's more, they received as much as 95% of their salary plus benefits. All they had to do was go to their plant or a union hall every day and wait around to see if their former employer would put them back to work. Maybe they were assigned to perform volunteer work in their communities, such as sorting clothes at a donation center. Maybe they played cards with their buddies all day. Either way, they weren't making cars but they still took home a handsome paycheck.

I propose that the U.S. IT industry create a similar jobs bank for technical professionals who are losing their jobs because of offshoring, data-center consolidation projects, obsolescence, increasing automation and other situations that trim the need for IT workers. Here are my initial general thoughts on how it would work.

When an organization undertakes technology-based project that automates tasks done by a person, the company must put money into the bank. This would apply, for instance, when a company deploys desktop management software that enables the management and support of PCs from a central location rather than sending technical footsoldiers from desk to desk to install software or update configurations.

When a company sends any type of IT work offshore, it must put money in the bank to pay the salaries of U.S. workers who now are out of a job. This would help all the software developers whose jobs moved to India, Israel and Eastern Europe, as well as the help-desk staff who were forced to turn over their headsets and support scripts to their much cheaper counterparts in Latin America, the Caribbean and India.

Organizations that do any kind of data-center consolidation or server-virtualization projects must contribute to the bank. That's because their projects are aimed at using fewer resources to do more work. Such productivity boosters require a hefty deposit to the bank.

Suppliers, vendors and consultants aren't exempt from the jobs bank program, either. If they sell or recommend a product or service that is designed to increase productivity by consolidating or automating processes, and this results in a reduced need for labor, they must contribute to the jobs bank. If they source any component of a solution from overseas, such as motherboards designed in Korea, they must make a deposit to the bank. After all, at one time those motherboards were designed in the good old USA, but those engineers are long idled by global competition.

By now you realize my ideas are facetious. The notion of the auto workers' jobs bank seems just as crazy. No wonder it's an industry on the verge of collapse. More than a billion dollars were spent on the program. Geez, for a billion dollars, all those idle auto workers could have been trained for more secure jobs as help-desk technicians!

Musthaler is a principal analyst at Essential Solutions, a Houston technology assessment firm. She can be reached at lmusthaler@essential-iws.com

SAP project put to bed by shareholders

BY CHRIS KANARACUS, IDG NEWS SERVICE

The weak economy has companies of all sizes and types moving to cut costs, and for U.S. bedding manufacturer Select Comfort, those choices have included a decision to halt all work associated with a wide-ranging SAP ERP project. And documents on file with a government regulator indicate that shareholder pressure may have contributed to the move.

Select Comfort, maker of the "Sleep Number" bed, will also cut 22% of its workforce, or about 120 jobs, and combined with other actions under consideration, the moves will save the Minneapolis company about $15 million each year, according to a statement.

A company spokeswoman declined to comment further last week.

Documents on file with the U.S. Securities & Exchange Commission show that Select Comfort planned to implement an integrated suite of SAP applications, including modules for ERP, CRM, supply chain management and many others. The company initially expected the project would be complete during the first half of its fiscal 2008.

"We believe this SAP-based IT architecture ... will provide greater flexibility and functionality for our growing and evolving business model and be less expensive to maintain over the long-term," one filing states in part.

But other SEC filings show that Select Comfort officials had for months been under pressure by a shareholder, the Clinton Group, to spike the project. In letters to Select Comfort's board, the Clinton Group characterizes the ERP implementation as significantly over budget and behind schedule, and the company's leadership as reckless.

"We believe that spending on the SAP system installation should be deferred until an expeditious detailed review of information technology needs is undertaken and completed by an independent consultant, particularly in light of the departure of the company's [CIO]," states a letter dated March 6.

The Clinton Group also said Select Comfort spent $12 million on the implementation in 2007 and "anticipates spending another $8 million in 2008, assuming no additional costs.... It is difficult for us to envision, given the size of the company, that the company could ever achieve cost savings to justify such a large expense."

"Select Comfort's plan to continue with the implementation using internal resources that have at best limited experience implementing a new enterprise software system is indicative of extremely poor judgment by management," states a letter sent by the Clinton Group in June. "Select Comfort's management has never articulated why it needs to spend tens of millions of dollars on implementing an enterprise software system, and given Select Comfort's financial performance the implementation should cease immediately."

While Select Comfort's statement did not rule out the possibility it would revive the implementation, unfinished ERP projects are "more common than you might think and more common than [they] should be," says Frank Scavo, managing partner of Strativa, an IT consulting firm.

"Ceasing an implementation midstream is certainly not a pleasant decision, because assuming that at some point, this organization is going to restart the implementation, they're going to have additional costs," Scavo says.

For example, a company might have to retrain workers on processes they're already been taught, and any implementation partners being used may not be available. ■

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Google as evil, now from the *Wall Street Journal*

NET INSIDER
Scott Bradner

Last week I wrote about someone who seems to be paid to bash Google whether the facts support the bash or not. This week the topic is a different type of misdirected bashing — and *The Wall Street Journal* should know better.

The headline in *The Wall Street Journal* story reads "Google wants its own fast track on the Web." Because Google has been one of the strongest supporters of network neutrality over the last few years, any backing down from that position would be and should be big news. You have to read to the end of the article, however, to find out that Google is doing is what Akamai did a long time ago, and it has nothing to do with fast-tracking the Internet or with network neutrality.

According to an official Google response to the *The Wall Street Journal* article, Google is putting Web caches in ISP networks to bring its content closer to ISP users. This helps the ISPs because they no longer have to get the content multiple times over their connections with other ISPs and, assuming the ISPs are smart about where the caches are placed, they can reduce the load on their infrastructure. It also benefits users because they may get better response times.

Google's use of Web caches is not all that interesting to me. But I do find the Journal article interesting and disturbing. I hope it's not an indication of what is to come now that Rupert Murdoch owns the newspaper. The headline is sensationalist and inaccurate, and most of the article is quite confused and misleading. If this is a taste of things to come, it will be quite sad; but if it is, it is a leading indicator, because I haven't noticed other examples.

The Journal has undergone quite a makeover since Murdoch took over. I subscribe to the Web-based version and generally like the revisions. (Although I do find it hard to find the place where one can enter the name of a stock and find out how much it's down today. That feature used to be on the front page and now it's buried somewhere nonintuitive to me.)

Network neutrality is one of the key technology-related issues the new Obama administration will be facing soon. There is no indication, as of this writing, of whom Obama is thinking about appointing to the FCC, where the network neutrality issue will get most of its discussion. Whoever that person might be, it is quite likely that the FCC is in for some significant changes. A new chair will bring new topics to focus on (and maybe less of a fixation on capricious reactions to broadcast naughtiness).

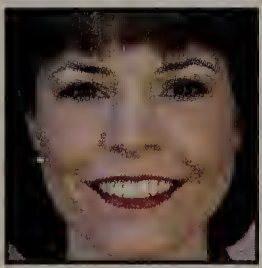
Google's deployment of Web caches is not a topic for the FCC or Congress to get involved in. But if any of the rest of the *The Wall Street Journal* article is at all accurate, the already complicated network neutrality issue has gotten even more complicated.

There is serious work on the future of the Internet to be done, and it would be good if the Journal could figure out a way to accurately help the process move forward.

Disclaimer: Harvard is in the middle of serious work on its own future (you may have noticed the reports in the newspapers), and has not commented on the Journal's coverage of Internet matters, so the above is my own review.

Bradner is Harvard University's technology security officer. He can be reached at sob@sobco.com.

A blueprint for Internet investment



EYE ON THE CARRIERS
Johna Till Johnson

President-elect Barack Obama has been clear that investment in infrastructure — including Internet infrastructure — will be one of his administration's signature initiatives. That's excellent news, because the Internet could surely use some focus and investment.

Here's hoping that his team brings the same attention to detail to his Internet initiative that it's brought to the campaign, staffing and transition strategies — because fixing the Internet isn't quite as simple as it looks.

Here's hoping that [Barack Obama's] team brings the same attention to detail to his Internet initiative that it's brought to the campaign.

First off, there's the definition of what exactly the problems are. In previous columns I've outlined two significant technical issues: the lack of bandwidth capacity at the edges (access lines), and the ongoing structural fragility caused by inherent architectural flaws (particularly around naming and addressing).

Those are the technical concerns. But there are others having to do with policy and economics. For example, is Internet access a "right" or a "service"? What is net neutrality, and does it apply equally to carriers and content providers? What is a user's expectation of privacy, and does it apply equally to carriers and content providers? And finally, what is the definition of "broadband" services?

It's all very neat and simple, or so folks would have you believe. But I'm with noted curmudgeon HL Mencken on this one: "For every complex problem, there is a solution that is simple, neat, and wrong."

In previous columns, I covered some of the nuances around Internet access, net neutrality, and unequal perspectives on privacy (it's apparently OK for content providers, but not carriers, to spy on their customers — hmm).

So what would I like to see from the next administration's Internet infrastructure initiative? For starters, I'd like a group convened to discuss some of the technical and architectural challenges of the Internet. And no, that's not the Internet Engineering Task Force, which has done some great work but has pretty much passed its "use-by" date.

Thank the IETF participants for their decades of worthy service, and start fresh. Invite some of the folks who've correctly predicted some of the current issues, have operational experience, and have continued to do innovative research. I'm thinking of people like John Day, Mike O'Dell, Noel Chiappa and Tony Li. Task them with coming up with a next-generation architecture — and having it implemented before 2011, which is when many of the current issues will reach the crisis point.

There's more, and I've said this before: Charter and fully fund a group to measure Internet traffic characteristics and capture real data — something that currently doesn't exist. Make sure every content and service provider fully participates. Great choices to run the initiative include KC Claffy and Andrew Odlyzko.

And for the policy and economic issues, steer clear of the ideologues. Any time there's an obvious "right" answer, we're almost certainly in Mencken territory. So my recommendation to the incoming administration: Keep an open mind. Explore the nuances. And stay alert for answers that are neat, simple and wrong.

Johnson is president and senior founding partner at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.

A primer on cloud computing

BY LORI MACVITTIE

The term "cloudbursting" was coined by Amazon.com Web services evangelist Jeff Barr to describe the use of cloud computing to deal with overflow requests, such as those that occur during seasonal rushes to online retail sites.

Rather than invest in additional hardware, software and personnel to scale and manage the myriad pieces of infrastructure necessary to increase capacity for Web applications, cloudbursting enables you to take advantage of the cloud to increase capacity on-demand.

Cloudbursting addresses two basic problems. First, companies periodically need additional capacity, but the return on investment for infrastructure to handle peak loads is exceedingly long because the extra capacity is used only occasionally.

Second, companies are hesitant to move all infrastructure to a cloud computing provider because of security and stability concerns. Cloudbursting doesn't eliminate that exposure, but if there is a problem with the cloud, it isn't the disaster it would be if the cloud handled everything.

Cloudbursting effectively enables organizations to treat the cloud like a secondary data center. They maintain and control their infrastructure and applications while leveraging the ability of clouds to expand and contract dynamically. That makes it financially feasible to use additional resources periodically without a large investment.

What's the catch?

The actual network and application-delivery infrastructure requirements are fairly straightforward and based on existing, well-understood methods for implementing global load-balancing. This makes cloudbursting appear rather simplistic, but as is usually the case, application issues, such as data replication and duplication, make the entire process more difficult, if not impossible for some applications.

Databases can be replicated in real time — or mirrored — over the Internet, but this is feasible only if you have a high-speed, low-latency link between the data center and the cloud provider. This means most organizations won't be able to take advantage of mirroring to address replication and data duplication issues. A more likely scenario is that it will be necessary to keep the cloud version of the data as up-to-date as possible and replicate it on a regular basis.

Once the application instance in the cloud is no longer necessary, the data will need to be merged with the local database, through import or replay of transaction logs. Some developers have solved this problem by implementing replication applications of their own that are triggered by database activity and use Web services to replicate the data back to the local data center. These solutions are not perfect and carry the risk of manual intervention being needed to clean the data when it is reintroduced.

Integration with other applications, too, is fraught with difficulty. A rule of thumb is that the more integrated an application is, the less likely it is a candidate for cloudbursting. The applications best suited to cloudbursting are those that integrate very little with other applications and whose data is not transactional.

How does it work?

Provided you have an application that fits the bill, cloudbursting works like a global load-balancer, distributing requests across multiple data center installations. The load-balancer is charged with monitoring the local data center and determining when it is close to peak utilization, then shifting requests to a secondary data center, which in this case is a cloud-computing provider.

The cloud-computing instance of the Web application then is brought online and begins serving visitors. How the cloud accomplishes this depends very much on the deployment model used by the provider, but it is assumed for the purposes of this discussion that the application is deployed and available at the cloud-computing provider's site.

The load-balancer continues to monitor the local data center and redirects requests as long as volume is high enough to push the local application over capacity. When traffic abates, the load-balancer stops forwarding visitors and the application in the cloud goes idle and eventually is taken offline.

How do you do it?

Cloudbursting sounds fairly simple, but several pieces of infrastructure need to be in place to implement it successfully.

- You must have the application deployed and available inside the cloud. It may be possible to deploy applications on-demand to the cloud-computing provider, but most providers probably will require the application to be deployed before it is needed.
- You must have a global load-balancer capable of deciding when to direct requests to a secondary site.
- You must have a way to determine when your application infrastructure is near capacity. An application-delivery controller (intelligent load-balancer) is the most efficient mechanism for making this determination.

"At or near capacity" for your organization could be a single metric, such as application response time, concurrent connections or aggregate server load; or it could be a combination of factors. Basically, you are determining the threshold at which you want visitors and customers to access the cloud instead of the local instance of your application.

This information is necessary to configure your application-delivery controller properly so it can communicate with the global load-balancer in a timely fashion and start to redirect traffic before it becomes critical.

Cloudbursting is a new twist on a fairly well-understood architecture. The difference between cloudbursting and traditional global load-balancing across multiple data centers is in the use of the cloud and in the savings realized by organizations that take advantage of cloudbursting instead of building their own infrastructure.

Cloudbursting also can be an efficient method of assisting with the scaling of rapidly growing sites at which the rate of traffic growth is outpacing the ability of IT to obtain, prepare and deploy infrastructure. Cloudbursting also can be extended as a disaster-recovery plan to reduce the costs associated with building and maintaining a secondary, idle data center.

MacVittie is a technical marketing manager at F5 Networks. You can contact her at L.MacVittie@F5.com.

This vendor-written tech primer has been edited by Network World to eliminate product promotion, but readers should note it will likely favor the submitter's approach.

Got great ideas?

Network World is looking for great ideas for future Tech Updates. If you've got one, and want to contribute it to a future issue, contact Editor in Chief **John Dix (jdix@nww.com)**

GEARHEAD
Mark Gibbs

Malware hunting

About now my editor is going to be wondering where on earth this column is. It should have been in his hands hours ago, but as I was beginning to write about a couple of search tools my Windows XP SP2 machine started acting up. Again.

You might remember a few months ago the problems I had with deferred procedure calls. These recently returned in a minor and transitory way that may be related to my current annoyance, which is that Microsoft's Internet Explorer 7 is acting weird.

Here's what IE is doing: After the system has been idle for some random time, IE 7 is launched but without a window. It appears to be loading some Flash content (I can hear looped music and Japanese or Chinese speech) and running a script. The reason I know there's a script involved is it eventually drives utilization to 100% then, after some time, I get the script-running-slowly-do-you-want-to-kill-it warning.

According to Process Explorer, IE is being launched by the svchost process (described by Microsoft as "a generic host process name for services that run from dynamic-link libraries"). What I found after messing around for some time is that it is next to impossible to determine how the svchost launch is being triggered and what IE is actually doing.

What IE appears to be doing is opening HTTP connections to servers identified only by their IP addresses. Googling one of these servers, 60.28.250.102 (which resolves to what appears to be a proxy server), produces only two hits and the pages appear to be in Hungarian.

The other address, 61.152.242.218, resolves to a Chinese Web server, smarttrade.cn, which doesn't appear to be used by the bad guys. Google only produces four hits for the IP address, which are all in the public cache contents listings of three university HTTP cache servers.

I tried to see what was going on using Process Monitor, another free tool from the Microsoft SysInternals stable that produces so much data that it's like looking for a needle in a haystack. What I found is that I appear to have a number of files laying around in the windows/system32 subdirectory that look like bits from various malware (files such as 0wiintemp.exe and 1wiintemp.exe), but much to my surprise, Lavasoft's AdAware doesn't seem to care about them.

So, I looked around and in the Process Manager task list discovered something called taskmagr.exe was running. Nope, that's not the Windows task manager (which is actually named taskmgr.exe). A little research revealed that this file is a fairly new worm.

According to the security company Prevx, this malware was first seen on Nov. 23 this year, it is polymorphic, and registers a Dynamic Link Library file that is executed as a process in a new background service. It also has a whole slew of aliases and sizes (which you'd expect with it being polymorphic and all). In short, it appears to be very sneaky.

Why didn't my antivirus software detect it? Because somehow it had been disabled (I won't lie, I might have turned it off when I was doing some testing). So I tried AVG Anti-Spyware and Prevx's CSI.

AVG incorrectly concluded that I had one case of generic adware (Advanced Systems Concepts' ActiveBatch is not adware) along with 184 tracking cookies (which are not, as such, adware at all).

Prevx CSI, which claims on its Web site to be capable of scanning an entire system in "around 1 minute," found no problems in the 9,517 files it scanned in 15 minutes and 41 seconds.

So, now I have a complete mystery. Friends advise me to just wipe the offending system and reinstall, but I want to find out what's going on. Suggestions?

Gibbs is lost in Ventura, Calif. Help him at gearhead@gibbs.com.

COOLTOOLS

Hava: If Slingbox married TiVo

The scoop: Hava Titanium HD WiFi, by Monsoon Multimedia, about $250.

What it is: Like the Slingbox, the Hava Titanium HD WiFi device connects to a video source such as a TV or DVD player and your home broadband network. Once connected, you can watch the TV content on a PC or notebook over a LAN via the included Hava Player software, or over the Internet. The device includes an 802.11g wireless USB dongle to connect to your home wireless network, or you can plug in directly via Ethernet. An additional USB port lets you connect a USB hard drive, which can act as its own digital video recorder for recording and saving TV content (you can also save programs on the computer that runs the player software). The system includes composite (RCA), component (high-def) and S-video inputs for different video sources.

Why it's cool: Unlike the Slingbox, which requires an Ethernet or powerline network connection, this Hava model can transmit TV content over a wireless (802.11g) network. Monsoon Multimedia says that an 802.11n dongle is coming soon, making it easy to swap out to upgrade the system. The Hava Player software is very sleek, providing an easy way to change channels via a pop-up remote control that looks just like the one you have at home, and the ability to resize the picture window very easily. This model costs about $50 less than the Slingbox Pro-HD model, with similar features and functions.

Testing the system over the Internet, I achieved streaming at about 375Kbps, which wasn't bad considering the upload bandwidth from my home is less than 1Mbps on a good day. I got a few stops and stutters on the video, and the picture quality was decent.

Some caveats: The worst part of the system was trying to set up the wireless dongle. A convoluted process has you connecting manually to the dongle's SSID via a wireless notebook, then configuring it to conform to your existing wireless network. Jumping between wireless networks is a hassle, especially if you use third-party wireless LAN configuration software (although the Windows XP configuration tool isn't a party either). An easier way to do this would have been to let you transfer your wireless settings to the USB dongle via the PC's USB port, after which you could connect the dongle to the Hava system. In addition, I wasn't able to configure the system via my wired PC, although Monsoon says it is working to fix that problem. I was able to watch the TV content from my wired PC once the wireless dongle was configured correctly.

Firewall settings needed to be changed in order to allow for a USB hard drive to be connected to the system, adding additional difficulty.

Bottom line: If you really need a wireless transmission of your TV content (not supported by the Slingbox), as well as the ability to store content on an external USB hard drive and burn it to a DVD, this device is worth a look. The wireless configuration process needs a lot of improvement in order for regular users to get up and running quickly. Once configured, the device is nice — but getting it all working can curb your enthusiasm.

Grade: ★★★ (out of five).

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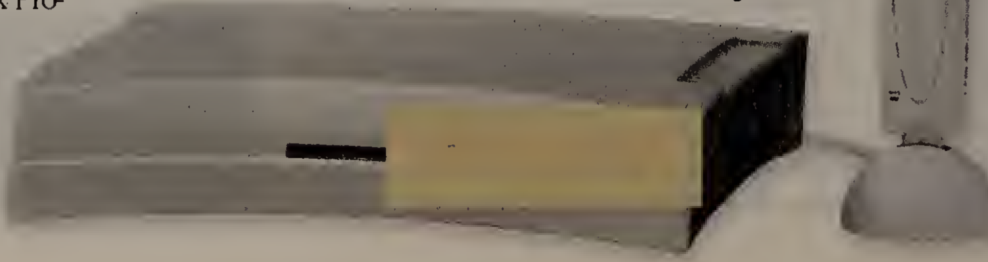
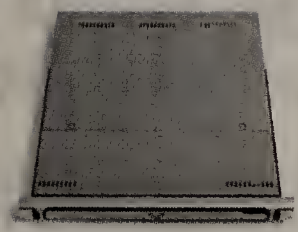


Hava Titanium HD WiFi streams and saves TV content wirelessly.



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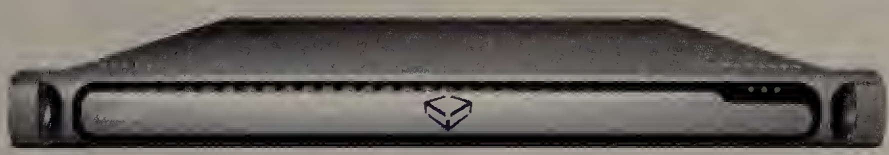

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3Com offers a safe bridge to UC for SMB market

VCX Connect hits home run on survivability

BY ROBERT SMITHERS AND THERESA MIER, NETWORK WORLD LAB ALLIANCE

In our continuing series of Clear Choice Tests (see www.nwdocfinder.com/7922) of unified communications platforms, we found 3Com's VCX Connect 100 and Connect 200 telephony products hit their target: providing small-to-midsize businesses with seamless voice and data-messaging services.

A major strength of the VCX Connect system is survivability, because it supports full redundancy with dual gateways. We observed transparent failover not only for phones but also for media gateways and other messaging applications without the system dropping a single call in progress. The other strong points of this UC platform are its centralized management scheme, strong conferencing capability and Session Initiation Protocol (SIP) interoperability. The configuration we tested included components that would reside in a main office, a secondary regional office, a branch office and a home office.

The VCX Connect 100 is a purpose-built IP PBX appliance, and the VCX Connect 200 IP PBX is pre-installed on a Linux-based IBM x3250 server.

Each VCX Connect 100 Gateway can support as many as 100 softphone, desk phone or analog devices, and the gateways can be strung together for larger deployments. The capacity of the VCX Connect 200 is greater, with each supporting as many as 250 devices.

Both platforms support SIP multimedia communications as an interoperable standard. That's good for third-party endpoint connectivity and for connecting through SIP-based trunk and hosting services.

The appliances can be configured with optional redundant RAID hard-disk drives that have write-both, read-either functions. A redundant power supply is available for the VCX Connect 100. Full system resiliency is provided by configuring two VCX Connect 100 appliances or two VCX Connect 200 servers with one of each in primary or secondary mode. During testing, we learned that the secondary server used only a small amount of bandwidth because it maintained synchronization through replication and mirroring.

This product is modular, which allows for office expansion just by adding extra VCX Connect servers to the network. The VCX Connect system also permits adding extra VCX gateways for load sharing or handling call overflow. The gateways can be dedicated for inbound or outbound messaging.

Our functional scalability tests determined that the VCX Connect 100 and Connect 200 systems let as many as six servers or regions be connected with no degradation in service.

The initial installation of IP telephony to remote offices is simplified through the use of multiple configuration templates. To ensure a uniform look and feel throughout a company, system administrators can use 3Com's Global Directory and Global Voicemail functions.

Both VCX Connect platforms handle unified voice mail and e-mail messaging services. Additional UC functions can be incorporated by adding a server with 3Com Convergence Applications Suite modules that provide conferencing, presence and telecommuting capabilities.

In the test bed, VCX Connect 100 was pre-installed on a 1U appliance in the secondary regional office, and VCX Connect 200 was pre-installed on an IBM X3250 server in the main office. Both platforms came with 25-user licenses for testing.

In the main office, there were primary and secondary VCX Connect 200 gateways, a 3Com IP Conferencing Module, a 3Com IP Telecom_muting Module, a 3Com X5 Unified Security Platform, a 3Com 5500-EI PWR 28-port Ethernet switch and several 3Com 3102 and 3103 IP phones.

The secondary regional office had a VCX Connect 100 platform, 5500-EI switch, 3Com 3102 and 3103 IP phones and the 3Com Convergence Client softphone running on a laptop. The branch office had the same endpoints but did not include the VCX Connect 100 platform. It had a

See 3Com, page 26

NETRESULTS

Product	**VCX Connect Unified Communications IP PBX**
Vendor	3Com www.3com.com
Price*	$146,900
Pros	High resiliency; IP PBX connectivity remains intact during network link failures; SIP-based call control brings broad interoperability; well-designed Web-based user and administrative interface; easy deployment with Web-based wizard.
Cons	Not yet integrated with Microsoft OCS; lacks end-point-to-endpoint encryption; limited text-to-speech capability; lacks color-screen desk phone; presence information not displayed on desk phones; changes made on VCX in user configuration not replicated on redundant VCX.
Score	**4.0**

SCORECARD

Action	Weight	Score
Features and functionality	25%	**4.25**
Integration	25%	**3**
Reliability	12.5%	**4.25**
Management and monitoring	12.5%	**4**
Security	12.5%	**4**
Performance	12.5%	**4.5**
Total score		**4.0**

Scoring key: 5: Exceptional; **4:** Very good; **3:** Average; **2:** Below average; **1:** Subpar or not available.

*System price as tested includes two VCX Connect regions, one being a redundant VCX Connect 200 and a stand-alone VCX Connect 100. Price also includes media gateways and all software licenses necessary to operate the system, as well as 300 3Com 3100-series IP phones, and 300 phone and 300 mailbox licenses. Pricing also covers all features including redundancy of IP telephony and IP messaging; all IP telephony and IP messaging features, such as native six-party conferencing, hunt groups and unified messaging; and the use of Global Directory and Global Voice Mail for multisite calling and voice mail features.

DNS CHANGE MAKERS

PAUL'S DOMAIN.

I designed the foundations of DNS 25 years ago to be simple and modular. That's how dozens of extensions have been successfully added over the years to, for example, integrate DNS with DHCP, route VOIP calls, lookup RFID tags, and use international character sets. All aspects of the DNS are larger now. The email that needed one DNS lookup in 1983 now needs dozens for delivery and spam checking — not to mention a billion or so new public and private domain names. But don't let this seeming complexity get you down.

The first key for dealing with this challenge is to select tools that have been tested, proven and use the same simple and modular approach. That way, effort in one application helps another. At Nominum, we tested our ENUM servers to be sure that they could handle DNS databases that had millions of separate zones and billions of resource records and still deliver instant server restarts and still deliver industry-leading performance. That meant that when a huge antispam database application came our way we knew there was no scaling issue.

The second key is to use the advanced technology to monitor and control your DNS (and DHCP) systems. You shouldn't expect your sysadmins to validate security credentials by hand or learn new languages when your business goes international. Human error is always a concern. DNSStuff uses its own dedicated network assets to monitor your DNS systems at a level of detail unmatched by other tools, then it uses its proprietary algorithms to give you the most specific results and actions to fix any problems. When new DNS applications and extensions are added, DNSStuff tools are there. Not all DNS tools are created equal.

Paul Mockapetris, Father of DNS, invented 1983

DNSstuff.com

WHEN GOOD ISN'T GOOD ENOUGH.

3Com
continued from page 24

3Com 4200G PWR switch and a 3Com VCX V7111 Analog Media Gateway.

The home office had a 3Com router, an IP phone and the 3Com Convergence Client softphone. The home office in our test bed relied on the VCX Connect IP Telecommuting module to enable secure remote telephony and messaging. The application ran on a separate IBM X Series server in conjunction with the 3Com X5 firewall. The telecommuting module eliminates the need for VPNs or leased lines, and can support as many as 6,000 remote workers. We also tested the solution's mobility functions using Hitachi and Nokia (E61) dual mode phones, several Research In Motion BlackBerry PDAs and a Hitachi IP5000 wireless (802.11 Wi-Fi) IP phone.

Redundancy is key

To test the system's survivability, we disconnected and shut down its different components and processes, and interrupted redundant link connections between the VCXs. The VCX Connect system instantly reacted to these shutdowns by switching to the appropriate hot-standby device. Failover for phones, media gateways and applications, including messaging, were transparent because the system replicated data in real time between controllers. Calls stayed intact, and voice mail remained accessible during interruptions or the disconnection of either VCX Connect server in the main office.

For regional remote-office survivability, the VCX Connect platform includes an inbound and outbound public switched telephone network, and LAN and WAN failover capabilities. Telephony at the branch and secondary regional office remained available when both VCX Connect servers in the main office were disabled. This was a simulation of a WAN or Internet outage.

IP PBX expansion is a perfect use for such platforms as the VCX Connect. It is easy to enlarge existing IP PBXs by using the modular VCX Connect. We installed a VCX Connect 100 server as a new regional communication server to an existing IP PBX environment. The VCX Connect installation process was virtually automatic. After a few basic settings were made to accommodate DHCP configuration, the new VCX downloaded the remaining configuration and complete telephony-control software image from the operational main VCX server.

The VCX Connect 100 and Connect 200 systems survived a battery of security vulnerability scans that were conducted using Mu Dynamics' 4000 Analyzer with an implementation of RFC 4475 for SIP protocol call setup handling (see "How we did it" at www.nwdocfinder.com/7923).

The VCX Connect's centralized management application is capable of managing many devices through similar screens, and is accessible via a browser. We were particularly impressed by the wizard that simplified the configuration of the full deployment of the redundant systems. The GUI lets administrators configure device and user settings, and it enables importation of preconfigured provisioning data, such as phone extensions, using a set of CSV or Microsoft Excel files. One problem we noted, however, was that actions performed on one gateway were not updated automatically to the redundant gateway.

The menu prompts presented to administrators and users are similar, yet they provide separate levels of access and security. For example, with regard to the configuration screen needed to set up an endpoint device, the user's screen presents only the device assigned to him, but the administrator sees all the possible phones in the system. When you log into the management application, you are permitted or restricted to the appropriate screens depending on your authorized privilege level. It features intuitive graphic maps for tasks including system modification, component activity information, and system backups and restorations.

Simple as SIP

Because the VCX Connect architecture is based on SIP, it does not employ a proprietary call-control protocol. As such, it seamlessly integrates with third-party applications and devices.

We tested SIP interoperability using Touchstone's WinSIP, ClearSight Networks' ClearSight Analyzer and Mu Dynamics' SIP test suites. We verified the results by successfully plugging in and using IP phones from Polycom (models 650, 550, 430 and 330), Grandstream Networks and snom Technology, as well as with Hitachi and Nokia (E61) dual-mode phones and wireless SIP phones from Research In Motion and Hitachi.

Based on these results of the VCX Connect platform, we can extrapolate that it should work with SIP-compliant IP phones sold by others including those offered by Avaya and Cisco.

See me, hear me, read me

All telephony and messaging features worked well. One example was the ability to preconfigure conferencing screens in terms of the use of video and audio, the number of users to be included, duration of the conference and whether it was a recurrent event. These conference functions are richer than others previously tested in this market space.

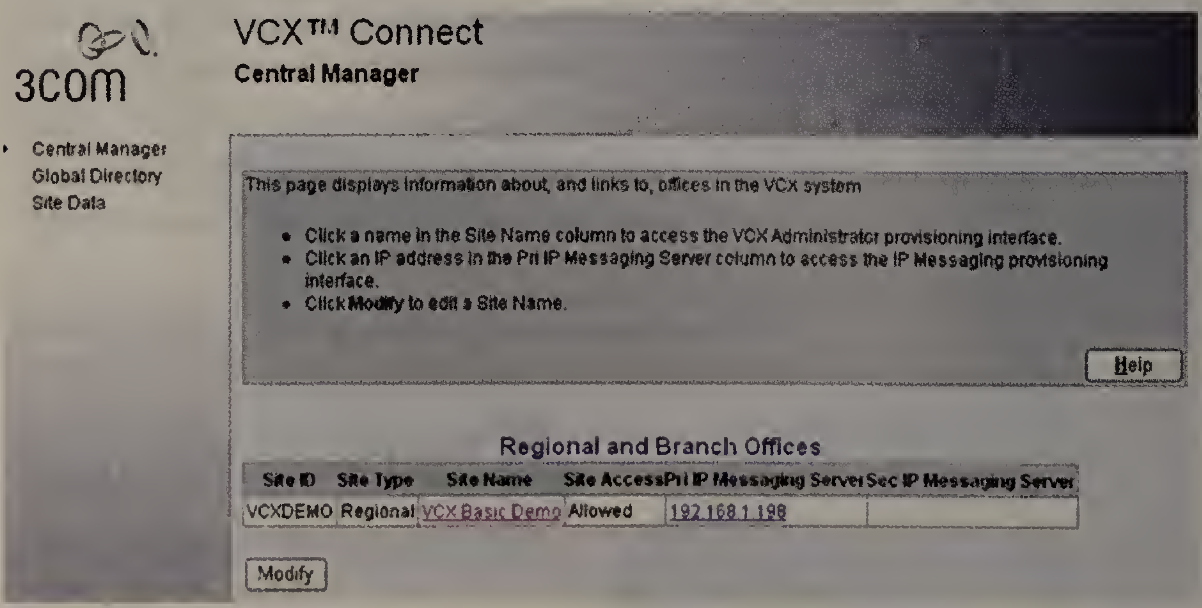
In testing the 3Com Convergence Applications Suite, we saw great success with conferencing for as many as 150 audio sessions with a maximum of 100 users per session. Numbers, however, drop dramatically when videoconferencing is used. Presence propagation also was a problem because the 3Com handset did not show presence indications.

The system's video capabilities were good. Using SIP-based videophones, the clarity and contrast exceeded expectations, and there was no choppiness in the picture or transmission. H.263 video was particularly well done with good setup controls.

The video quality provided through 3Com's PC-based softphone application, the 3Com Convergence Center Client, also was excellent. In fact, this softphone is one of the better UC clients we've tested, when ease of use, video quality and bandwidth utilization are considered. It has easy-to-use controls and a wide range of presence-enabled communication options including voice, video, conferencing and messaging. It can be accessed from anywhere using a VPN.

3Com does not offer a color-screen desk phone; that might be an issue for customers who want that feature.

The VCX Connect appliances support e-mail, voice mail and text messaging, fax deliv-



The VCX Central Management Console provided easy, one-click access to the VCX Administrator provisioning interface and to the IP Messaging provisioning interface.

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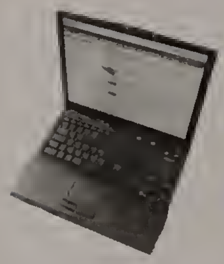

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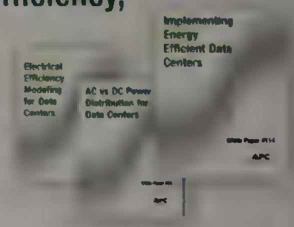

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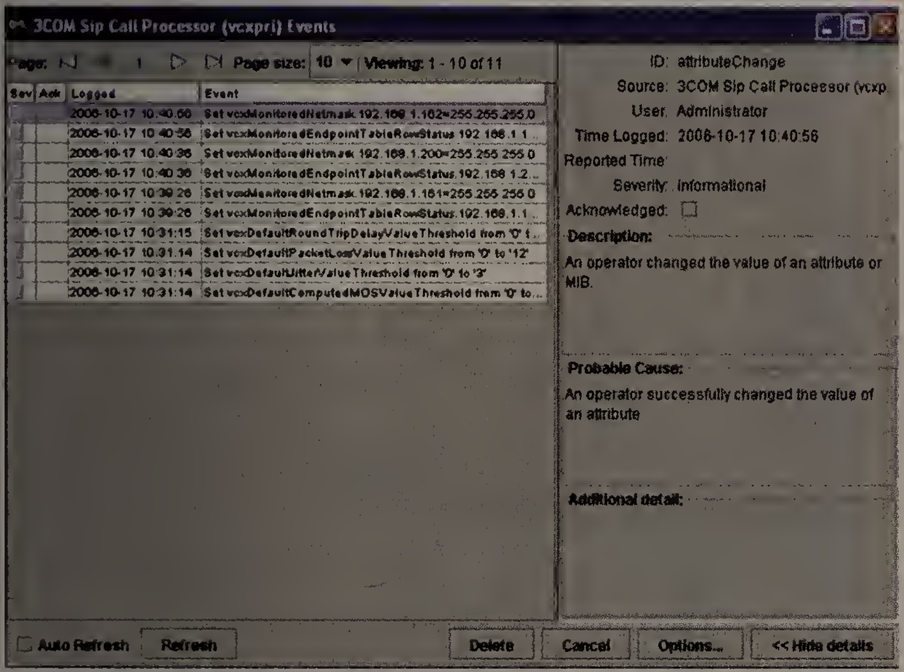

3Com's call processor event log gives a view of all major and minor alarms, along with a corresponding description. The log window also provides suggested causes for each alarm.

ery to e-mail, desktop sharing, multiple phone appearances on an extension, remote collaboration and other functions found in most UC platforms.

We tested the features and functions of the VCX Connect and found the system to be both feature-rich and straightforward to use. Features included e-mail integration, voice message access, text messaging, and fax to e-mail, as well as the standard IP PBX; and the only significant observation from testing was the ease in which these features were configured through the Web GUI.

The software developers kit was comprehensive and offers extensive API customization to let the customer tailor the environment beyond what the out-of-the-box capabilities afford, including a program that provided XML access for CRM that can launch based on incoming calls to the softphone application.

In testing, the integrated unified messaging — called the "find me, follow me" feature — let our test caller reach the intended recipient with a single prompt after the UC system transparently parsed a dozen phone numbers looking for the recipient.

One drawback — which 3Com indicated it is addressing in future releases: the VCX Connect appliance does not integrate with Microsoft Office Communications Server. In addition, the system's text-to-speech feature is somewhat limited. Text to speech now is used only to announce the names assigned to extensions that are not recorded by the user.

With its VCX Connect platforms and the available software applications in the Convergence Applications Suite, 3Com provides small organizations with a comprehensive menu of products that can take them quickly from legacy TDM-based PBX telephony to state-of-the-art IP-based unified communications. Growing companies will have no problem expanding with remote offices. With an IP PBX network based on the VCX Connect platform, expansions are essentially a plug-and-play effort.

Testing showed the 3Com solutions to be highly secure and reliable. The availability of optional RAID hard drives and — in the case of the VCX Connect 100 — redundant power supplies, makes VCX Connect a safe choice for businesses with branch or remote offices and telecommuters.

Smithers is CEO and president of Miercom, Mier is senior partner of Miercom, an independent networking equipment testing lab for more than 20 years. They can be reached at reviews@miercom.com.

Recession-era guide to network service contracts

How to save money in the event of a downturn, merger, divestiture or reorganization

BY HANK LEVINE AND MARK JOHNSTON

Not many enterprises have been lucky enough to escape the effects of the current economic downturn. If your company is going through a downsizing, merger, acquisition or even bankruptcy, there are steps you can take to retool network service agreements and save your company money. These tips are offered by Levine, Blaszak & Boothby, a law firm specializing in network service and IT procurements.

Step 1: Assess your rights and obligations

First, review existing contracts. If you were not able to begin that during the due-diligence phase of a merger, acquisition or restructuring, it should be an early priority after closing. The key is that before you sit down to negotiate with service providers, you need to know which services you have to work with, which commitments have been made, and the terms that prevent or inhibit contract termination or renegotiation.

Many enterprises do not look before leaping to cut deals in the face of economic troubles. The excitement, disruption, confusion and anxiety that often accompany a merger, acquisition or restructuring make it easy to succumb to the temptation to rubber-stamp or roll over service arrangements quickly and move on to the details of consolidation.

That temptation is heightened as vendors offer one-time credits or other short-term benefits to maintain or expand their role in the new environment, operations personnel press for reductions in the number of contracts and service providers they have to deal with, and management makes expected savings an immediate strategic priority.

Here are some issues to consider and terms to look for in reviewing service arrangements.

- Identify which services are provided by which service providers under which agreements. Distinguish between custom arrangements and commoditized services. You have more options for basic or undifferentiated services — transport and equipment maintenance, for example — and it may be easier to identify and terminate redundant arrangements in those areas. Conversely, you may have little choice but to maintain customized environments in the short or medium term.
- Once you know what you are getting and from whom you are getting it, zero in on redundancies in contracts and service providers. If you have inherited two Cisco maintenance arrangements, you should be able to consolidate them. If you have inherited a Verizon MPLS network and an AT&T MPLS network, either you are halfway to an enterprisewide dual network or you need to migrate to a single backbone (which can be awkward, disruptive and very expensive if not done carefully).
- Identify unsatisfied financial commitments and associated termination charges. Some are agreement-wide, but in recent years carriers have made a concerted effort to lock in customers by making commitments and concomitant early-termination charges, site-by-site, circuit-by-circuit or device-by-device. These terms, if applicable, will define the costs and limitations of unilateral action under your existing arrangements.
- Identify terms that mitigate exposure to financial commitments for such events as divestitures and business downturns. This is the flip side

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of the preceding point. Such clauses may provide direct relief from commitments or at least provide some leverage to mitigate their effect. But know that the providers' versions of these terms (if that's what you have) are often worthless — they basically give you no more than the right to request a conversation.

• Do your volume-related pricing terms promise realizable benefits or costs if service volumes rise or fall? Do not assume you will be able to reduce unit costs by migrating additional services to an existing agreement. Particularly in managed services, vendors like to keep open their options to reprice for "scope changes." Identifying where you can migrate additional services and where you have to haggle will help you prioritize renegotiation tasks before you go to the providers.

• Does your contract include the right to consolidate acquired agreements under it or vice versa? These clauses can serve as a guide or even a catalyst to renegotiate multiple contracts with a vendor to a single service arrangement.

• What is the remaining term in a service arrangement, and do you have any transition or migration rights under it? If a key service arrangement is expiring, you may need to negotiate a short-term extension. If the arrangement is redundant or you want to terminate it, a limited remaining term may eliminate the need to do anything. Either way, you want to know each contract's status so you can plan and prioritize contracting and re-sourcing tasks.

• Identify terms that allow you to compel a refreshing or review of rates and other key terms. Rate review and benchmarking clauses, and terms that allow the business to test the market for new services or increased volumes, may provide additional leverage following a merger, acquisition or consolidation.

• Identify ongoing procurements, renegotiations, rate reviews and other initiatives that were started before the changes in your company. You may want to continue some of these, but it's more likely you will want to suspend or terminate them. The last thing you want to deal with in reshaping the network and IT service environments is projects that either do not reflect the new environment or create impediments to consolidation and re-sourcing.

• Don't forget the details. Consider the need to reassign toll-free numbers, assign software and related licenses, and continue offering service to divested business.

The point is that you need to know — and document — relevant contractual rights, opportunities and obligations before you engage in negotiations that will use and affect them. Examining the contract terms is the only way to avoid erroneous assumptions or relying on vendor representations of what those terms are.

This assessment should be done with minimal vendor input. All you want from vendors is confirmation that you have current versions of all the documents.

"Avoid making long-term commitments based on short-term needs."

Step 2: Keep the lights on

Avoid making long-term commitments based on short-term needs. However great the temptation to lock in quick savings or check off one of the many issues on your to-do list, resist long-term solutions until you determine which technology and service arrangements to retain, terminate and renegotiate.

If you are faced with the expiration of an essential service arrangement, take action to extend it for an appropriate period — one year, not three or five. Depending on your back-end transition and migration rights, a year is a good benchmark for network service deals, though you may need more time for complex managed service and outsourcing arrangements. The better your transition clause (detailing your rights to keep the contract terms and prices in place without volume commitments while you move your business after the contract expires), the less likely that you will need a substantial extension.

If you need quick savings in the near term, pare back on locations and eliminate duplicate facilities. "Merger synergies" may be overrated, but in the IT and network areas they are real; it's unlikely you will need as many data or call centers after a merger or reorganization as you did before.

Step 3: Prepare the new environment

Once you have done the homework and have breathing space against contract expiration, you are ready to remake the service environment. Here are four tips.

Explore consolidation. When a restructuring results in two or more agreements with the same vendor — which is the rule rather than the exception in network services — you should be able to consolidate those arrangements under a single master agreement. This will simplify the relationship by creating a single set of terms and consolidating account support. It also provides an opportunity to consolidate and reduce aggregate contractual commitments. In addition, the customer almost always can maintain — and usually improve — a master agreement's pricing and terms.

Service providers usually cooperate in this type of consolidation, though they will try to extract concessions based on their perceived leverage. An acquired-agreements clause can help if you have one. Such clauses take many forms, but all involve an agreement by the service provider to consolidate the subject agreement with other agreements the service provider has with entities the customer merges with or acquires.

The clauses usually do not expressly call for reductions in the resulting aggregate commitment — you'll have to rely on other terms (or negotiations) to get that result. At worst, an acquired-agreements clause can compel the service provider to come to the negotiating table. At best, it "pre-resolves" some key issues and makes it easy to agree quickly on reasonable terms.

When a restructuring results in similar services being provided by two or more competing vendors — also common in network services — the customer usually has even more leverage to renegotiate existing arrangements or solicit new ones than it has in a one-vendor situation. That may seem counterintuitive, especially if the customer will be unable to meet its combined pre-event commitments. However anxious you may be in this situation, the vendors' problems are worse. Each fears it will end up the net loser, ill-positioned to regain business in the future.

The key to successful negotiation in a two-vendor world is maintaining competition between the vendors. If you down-select prematurely, or if it becomes evident that you are using one provider merely to extract concessions from the other, you will lose your leverage before you lock in the benefits of competition.

Anticipate and deal with management involvement and favoritism. If you are not a CXO or the head of procurement, those above you will be charmed, cajoled or arm-twisted — despite vendor protestations to the contrary. In merger situations, post-restructuring managers usually favor the vendors from their pre-merger company, even if they are less responsive or offer less favorable terms. Management may back you up, but you can't count on that without some advance planning.

Regardless of your situation, keep some basic points in mind in restructuring a service arrangement. First, remember that in the wake of a merger or reorganization one plus one seldom equals two, at least in terms of network and IT needs. Data center, call center, office and personnel reductions will reduce aggregate demand and spending, and thus vendor revenue. Service providers will not take this into account when proposing commitments or discount tiers. It will be up to you to make sure that volume-driven terms reflect the realities of consolidation.

Don't pay too much for marginal price reductions, contract consolidation or a changed scope of service. Vendors always ask for new financial commitments, longer service obligations or other substantive concessions when they renegotiate agreements. They rarely insist

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on them, however, and your job is to consider whether the costs are commensurate with the offered benefits. If the additional costs are relatively small (six more months on a two-year term that is at two years, or a commitment of 65% rather than 60% of potential run rate) and the benefits are substantial (10% off of recently negotiated pricing) they may be worth considering.

If, however, the service provider is asking for a substantially higher commitment as a percentage of expected requirements to extend a deal that will expire in a year, you will be better off testing the market. Be especially wary of upfront "signing" or "loyalty" bonuses. Your CFO will want these, but in our experience, the price is steep — about $3 demanded in additional committed service revenue or spending over the life of a contract for every dollar given upfront.

When consolidation or downsizing result in a commitment shortfall or higher costs, the desire can be great to trade short-term relief for longer or more exclusive commitments. In most cases, you will be better off rejecting the vendor's opening offer in favor of getting to —and keeping your options in — the next procurement cycle. If you are willing to call the vendor's bluff and demand reasonable terms for continued business, you probably will be able to negotiate avoidance of, or relief from, shortfall charges without trading away future options.

A restructuring is a good time to reassess the entire IT environment and supporting services. If you have to merge two network management and support models, IP telephony systems, remote office infrastructures, telecommuter support models and enterprise software platforms anyway, consider scrapping the status quo for something better. Given the pace of technological advancement in our field, there is often something better. Do not let the perceived need to manage and weed out vendors and service arrangements distract you from the opportunity to put in place new, more appropriate technologies, systems and support services for the new environment.

Sometimes it is better to just sit tight. If the organization finds itself with two deals with the same vendor, one of which expires in six months and the other in two years, it may be better to let the former run its course and migrate service to the latter, rather than spend time trying to consolidate the arrangements.

Step 4: Future contracts

The primary purpose of this story has been to provide some thoughts about how to approach IT and network agreements in a restructured environment. We also want to remind you of things that customers can do in every negotiation to improve their leverage in the event of a future restructuring or business downturn.

- Keep your financial commitments under control. A low commitment is good policy, especially in a restructuring or forced downsizing, because it is an inexpensive source of leverage. Vendors will claim that giving you that last 5% in savings requires a commitment that is 20% higher than what is on the table, which is just not true.
- Push for an acquired-agreements clause. A good one can make your life easier in a merger or restructuring.
- Consider including explicit rights to allow divested business units to continue purchasing services under your contract. After a divestiture, the former parent usually has to provide IT and network support for the sold or spun-off unit for an interim period. It is easier to negotiate reasonable terms for this — such as striking the right balance between contribution towards commitments and liability if the divested unit does not pay its bills — when you conclude a new contract or a major renewal rather than when the need is imminent.
- Include terms allowing for commitment relief in a business downturn, divestiture or restructuring. As noted above, beware of the vendors' standard clauses in this space.
- Make sure contracts and rights are transferable. Service agreements usually can be assigned to affiliates, and successors — acquiring or surviving post-merger entities — are deemed to inherit the rights and obligations of the acquired or merged entity. Many software and technology licensing arrangements (including those embedded in service and equipment-purchase arrangements) restrict transfer rights, however. You will want to make sure that such limitations do not impact adversely the access of successor or divested entities to critical services and products.

There is an ancient Chinese proverb to the effect that "if we don't change direction, we are likely to end up where we're headed." A lot of things in the current environment are beyond the control of IT and telecom managers, but contracts are not one of them. As to those, we prefer the Boy Scout motto: "Be prepared."

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The bankruptcy code can be your friend, sort of

Nobody likes to file for reorganization under the bankruptcy laws, but it happens. While it's usually bad news for a company's stockholders, in the area we're talking about ,Chapter 11 has one major advantage —the ability of the bankrupt company to reject executory contracts, a category that includes ongoing IT and network service agreements.

This means that a bankrupt company can terminate its ongoing contracts without normal liability for shortfall charges, early-termination charges and the like. This is a powerful source of leverage when a company deals with vendors. The right to retain or reject executory contracts also can enhance the value of a bankrupt company in the eyes of potential purchasers.

Smart planning and coordination with a potential purchaser as to which services contracts add value and which may impede consolidation could tip the balance between acquisition of the bankrupt firm as a going concern and the piecemeal acquisition or liquidation of its assets. In addition to the right to reject contracts, bankruptcy offers a respite from service provider claims, although it is short-lived.

Filing for bankruptcy stops a company's service providers, including telecom providers, from cutting off service for at least 30 days. That is good news for those trying to keep a business going, but 30 days go by quickly. If the bankrupt company can provide "adequate assurance" of current payments within that 30-day period, the service provider is bound to continue providing service under the applicable contract. If the company can't, it must spend this period of reprieve working out a plan to obtain service going forward. Rejection rights can serve as a useful lever in these negotiations.

The bankruptcy laws also make unenforceable clauses allowing the provider to cut off service immediately. Why do lawyers insert these so-called ipso facto clauses? It is mostly wishful thinking, reflecting the desire of clients to be rid of service providers in financial trouble, and the hope that changes in the law will let them exercise the right in the future. Service providers, however, have an interest in terminating insolvent customers or using the threat of termination to extract concessions. The bar on enforcement of ipso facto clauses may be frustrating when a provider is in dire straits, but it is a boon to struggling customers.

—Hank Levine and Mark Johnston


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AT&T

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of economics studies at the Brookings Institution. "The government had originally wanted to set up long-distance companies that would have provided us with lower long-distance rates. But separate long-distance companies are simply not viable now because of the advent of wireless and VoIP."

Another reason that the divestiture has become increasingly irrelevant is the merging of many of the local phone companies, which has created a telecom industry that is far more consolidated than any of the breakup's advocates had anticipated. For instance, of the seven Baby Bells created by the 1984 AT&T breakup that became effective on Jan. 1, 1984, four of them — Ameritech, BellSouth, Pacific Telesis and South Western Bell — are back under the AT&T umbrella. Of the remaining three, Verizon now owns what used to be Bell Atlantic and Nynex, while Qwest Communications bought U.S. West in 2000.

"The local phone companies have all merged now to the point where there are only three left, and they operate in areas where they are huge regional fiefdoms," says Ben Scott, the policy director for Free Press. "We broke up a monopoly, and it's basically reconstructed itself without the regulations that used to apply."

How the Baby Bells got back together

When AT&T agreed to divest its local telecom business in 1984, it was divided into Baby Bells that represented the seven major regions of the United States. Over the past 25 years, these companies have merged, and four of them are back under the AT&T umbrella. Briefly, here is where the original Baby Bells are now:

1995: Southwestern Bell changes its name to SBC.

1996: New England-based NYNEX is acquired by fellow RBOC Bell Atlantic.

1997: Pacific Telesis is acquired by SBC.

1999: SBC acquires Ameritech, making it the dominant phone company throughout the midwestern United States.

2000: Bell Atlantic acquires GTE and changes its name to Verizon; the company is now the dominant player in the Northeastern United States. Qwest Communications acquires Baby Bell U.S. West, making it the major phone company in most of the western United States.

2005: SBC buys AT&T.

2006: AT&T buys BellSouth, the last of the original RBOCs.

A question of innovation

While technological innovation has made the old world of local landline carriers increasingly irrelevant to modern telecom, there is still the question about whether breaking up Ma Bell helped or hampered innovation in the telecom market. A. Michael Noll, a professor emeritus at the Annenberg School for Communication at the University of Southern California and a former researcher at Bell Labs, says that carving up AT&T has been detrimental to U.S. technological advancement. In particular, he cites the negative impact that the breakup had on Bell Labs and its ability to innovate.

"The great industrial research labs from the past are pretty much gone," Noll says. "Bell Labs brought us cell phones, it brought us material science, such as digital switching. During World War II, you had a lot of innovations that came out of Bell Labs for radar and sonar technology. Today, there have been a lot of advances in existing technologies, but they seem to be incremental improvements rather than anything totally new."

Others, however, think that the Ma Bell breakup has led to innovation in the wireless market that would not have occurred had AT&T been allowed to stay together.

"It's always difficult to determine what kind of innovation wouldn't have occurred if AT&T had remained a monopoly, but I don't think the Internet would have progressed to where it is today without the breakup," says Gartner analyst Alex Winogradoff. "I think the Web might still be used primarily as an educational device, as opposed to being a commercial network. And the development of the mobile environment would also not be as advanced today."

Telecom analyst Jeff Kagan agrees that divvying up Ma Bell has led to a tremendous amount of innovation within the wireless world, but says that several telecom firms had to start merging in order to really see the market develop. The reason, he says, is that innovation requires a lot of capital that cannot be spent by smaller firms. This industry consolidation has been a necessary step toward making companies that are big enough to innovate, but Kagan thinks there is a danger that further big mergers would hurt the industry in the future.

"Ten years ago, we had a dozen major telecom providers and today we have three or four major providers," Kagan says. "But I would not like to see the industry go back to having only two players. We've still got the three Baby Bells and four big wireless players."

Although analysts and historians like to make educated guesses about where the telecom market would be today without the Ma Bell breakup, they acknowledge that they are still making guesses. The Brookings' Crandall, for one, doesn't think that busting up Ma Bell has had any meaningful impact on innovation in the telecom market because cable companies and wireless providers would naturally have jumped in to compete with its landline services at some point over the past 25 years.

"Other countries didn't break up their telephone companies and they are in the same place today that we are," Crandall says. "Whether we could have gotten to this place today without breaking up AT&T is an interesting question, but it's largely irrelevant." ■

■ **Network World**, 492 Old Connecticut Path, Framingham, MA 01701-9002, (508) 766-5301.

Periodical postage paid at Framingham, Mass., and additional mailing offices. Posted under Canadian International Publication agreement #PM40063731. Network World (ISSN 0887-7661) is published weekly, except for a combo issue in November and the last week and first week in each of the following months: Dec./Jan., March/April, May/June, June/July and Aug./Sept. by Network World, Inc., 492 Old Connecticut Path, Framingham, MA 01701-9002.

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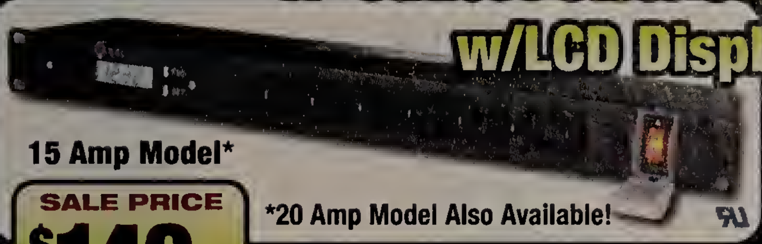

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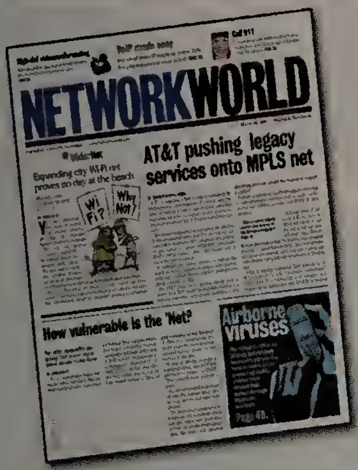

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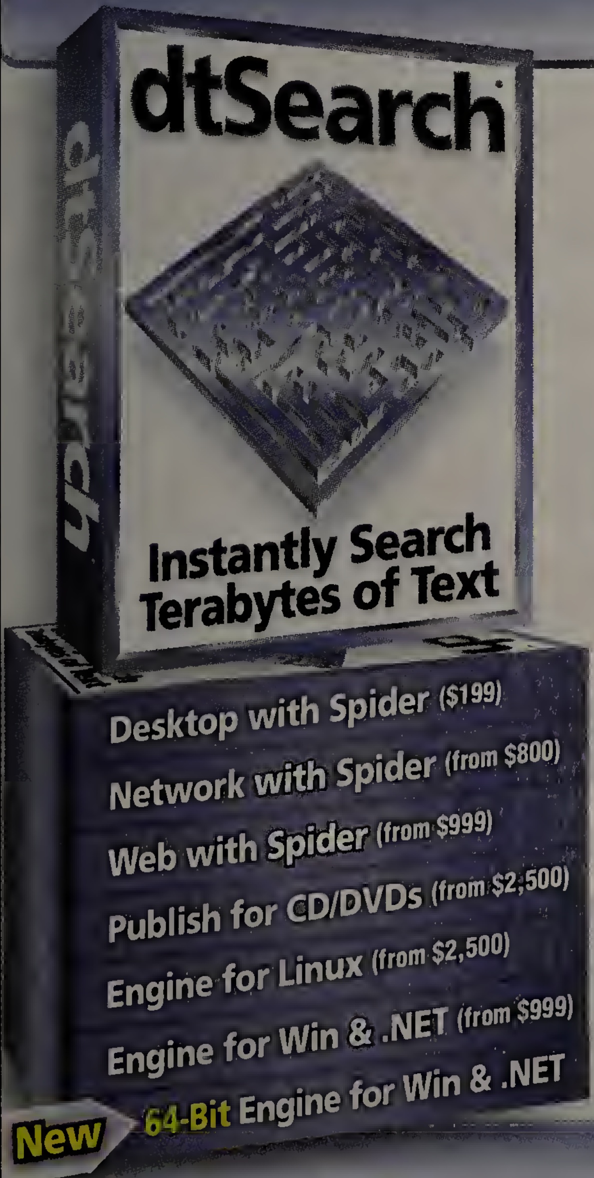

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BACKSPIN

Mark Gibbs

Merry Christmas, Julie Amero

Christmas changes life into a delirious, happy, hopeful haze of eating, drinking, seeing friends and celebrating as the year comes to a close. For Julie Amero of Connecticut I suspect 2008 can't close fast enough.

Back in March last year I wrote about the plight of Amero, a substitute teacher in Norwich, Conn. To recap, Amero was a seventh grade language class teacher. Little did she know that when she went to work on Oct. 19, 2004, her life was about to become very complicated.

On that day, while in class teaching, Amero was also Web surfing and checking her e-mail using a school-supplied computer. Suddenly pornographic popups started to appear. It was bad enough that these popups appeared but what was worse was they wouldn't stop.

Amero was at a severe disadvantage in this situation. She had been specifically told not to turn the machine off and, not knowing much about computers, simply didn't know what to do. Add to that the facts the school had no firewall, no Internet filtering and the PC had no malware protection of its own worth talking about.

Amero managed to block most of the children from looking, but the real nightmare wouldn't start until later. Amero was charged with child endangerment, which could have potentially sent her to prison for 40 years. Was the school or the school district's staff held in any way accountable? No. The only person the authorities charged was Amero.

In January 2007 Amero was convicted on four counts, the actual charge being the rather vague "risk of injury to a minor, or impairing the morals of a child." The case went to appeal and a judge concluded that the state had provided erroneous testimony and set aside the verdict ordering a retrial.

Erroneous testimony was just part of the entire, trumped-up case against Amero. The prosecution's "evidence" was laughable, its witnesses inexpert and incompetent, and its intent transparent: To make an "example" of Julie Amero. Shameless and shameful doesn't begin to describe the behavior of the authorities and the court.

The conclusion to this farce played out in court when the State of Connecticut dropped the four felony counts in exchange for Amero pleading guilty to a misdemeanor, paying a $100 fine, and surrendering her Connecticut teaching credentials.

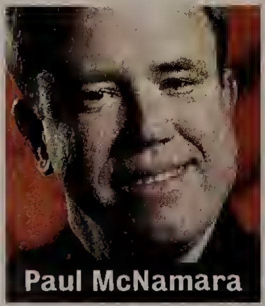
The four years of this state-sponsored bullying has cost Amero upwards of $50,000 in legal fees, cost her her job, given her a criminal record, and sent her to hospital with stress and a heart condition.

A lot of people did stand up for Amero, including people in the security business who published widely on the forensic mistakes and technical inaccuracies involved, but that made no difference. Even so, the state attorney, Michael Regan, has publicly stated that he is convinced Amero is guilty and he is prepared to go to trial again! Words fail me.

So, what have we learned? First, when computers and porn are involved a weird puritanical morality comes into play. Second, when computers are combined with a willfully ignorant court then common sense and any notion of justice are easily dispensed with. Third, if you teach in Connecticut, avoid computers. Fourth, if you teach and do go near computers, then no matter what people tell you, when in doubt pull the plug.

So, Merry Christmas, Julie Amero. I think I can speak for many of us when I say we're sorry, we wish computers were easier to deal with. May 2009 be a whole lot better for you.

Gibbs is festive but guilty in Ventura, Calif.. Your regrets to backspin@gibbs.com.



NETBUZZ

News, Insights, oddities

Readers get their turn to opine

It's been a long time since we've done this, so let's take a moment to lighten the mail sack, which this time of year does double duty, what with Christmas around the corner.

Regular readers know we have been collecting silly and demeaning euphemisms that companies foist upon workers receiving layoff notices. Two of the better have been "synergy-related headcount restructuring" and "force management plan."

Darin Bush writes in with another: "I worked in IT for Coca-Cola Enterprises in Atlanta for five years ending in 2005. During that year, they laid off about 300 of us technicians. I was called into a meeting with my manager and his boss. She looked at me across the table, and had the gall to say with a straight face: 'You have been chosen to not be part of the go-forward team.'"

And you thought it was bad being picked last for dodgeball.

A recent column suggesting that "wallet phones" are unnecessary because wallets and their contents already work well was met with both derision and applause.

Bruce Burke, a member of the former group, writes: "Every day when I leave the house I make sure I have the following items with me: wallet, keys, phone and sunglasses (I live in Florida). What if my phone interacted with my car and identified me, as well as my house? Another part of the wallet you did not even examine is the identification functionality. I think you should rethink your stance on mobile wallet.... I'd love to leave my house every day with only my phone and my sunglasses."

Leaping to my defense, however, was Bob Fately, among others:

"I heartily agree with your assessment of the complete lack of compelling reasons to have a cell phone equipped to make payments. I have thought this same thing about the contactless cards being foisted on consumers recently as well — what's the point? For the virtually negligible 'advantage' of not having to physically swipe a credit card, it seems to me that a certain amount of security is lost.

"In fact, I predicted a couple of years ago that wallet manufacturers would come out with RF-proof accessories to give the owners of these technological marvels a sense of security from 'wireless pickpockets,' and in the past couple of months I have seen ads for just such items."

A column about Google's peculiar habit of keeping lots of products in beta — for a long, long time — drew plenty of reaction, too, but there was more of a consensus in this case. Scott MacPherson writes:

"Could it be that Google is hesitant to remove the beta label because then it implies that the product is done, finished, complete, bug-free and/or ready for prime time? That is, it releases them from liability since, 'after all, it's still just the beta version?'"

Techno-artist/open source developer Evan Roth inspired mostly understanding and admiration when he explained to me his "TSA Communication" project, which goes like this: Take a metal plate, stencil and cut out a message — words ("Nothing to see here") or an image (a box cutter) — place the plate at the bottom of your carry-on bag, and watch to see if a TSA employee operating the airport X-ray machine notices.

Not everyone was amused, however. Writes Chris Kleefisch: "As a former TSA screener this will not go over well for long. TSA does not have a sense of humor about such things and this could backfire in such a way as Mr. Roth could be charged with intentionally interfering with TSA operations and wasting valuable time and resources."

Artists are so often misunderstood.

I almost always write back, so don't be shy. The address is buzz@nww.com.

DNS CHANGE MAKERS

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In today's world, computers are like telephones; everyone has them and everyone uses them. Cyber criminals are no different. Computers are simply a path to a crime and paths can be followed. The days of online anonymity are gone. With the proper tools, cyber criminals can be tracked and caught.

Cyber crime is on the rise because computer use is universal. Pedophiles, identity thieves, hackers, virus writers, social engineers and even terrorists are using the Internet to further their varying schemes, scams and deeds. The Cyber War is raging and for all of them, their achilles heel is DNS. As a former FBI Cyber Agent and a current Cyber Security Professional, I know that one of the ways to win this war is having the right tools that can quickly track, troubleshoot and accurately analyze DNS activity.

When the battle is on, the one source I turn to that provides me with the comprehensive tools I need is DNSstuff.com. When you deal with issues I deal with on a daily basis, you learn quickly all DNS tools are not equal.

E.J. Hilbert, Former FBI Agent & Director Security Enforcement, MySpace

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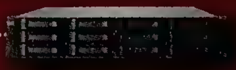

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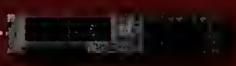

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